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Grey Heron, North-East Scotland, August 2017. © *Harry Scott*

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Scottish Birds is the quarterly journal for SOC members, and is published in March, June, September and December annually.

Containing original papers relating to ornithology in Scotland, topical articles, bird observations, reports of rare and scarce bird sightings, alongside branch and Club-related news, our members tell us that *Scottish Birds* is one of the key benefits of belonging to the SOC. Its different sections have been developed to meet the wide needs of the birdwatching community, and the publication is renowned for its first-class photography.

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On the one hand, a birdwatching club. Established in 1936, the Scottish Ornithologists' Club (SOC) is Scotland's bird club with 15 branches around the country and a growing membership of over 3,000. Through a programme of talks, outings, conferences and other events, it brings together like-minded individuals with a passion for birds, nature and conservation.

On the other, a network of volunteers across Scotland, gathering vital, impartial information about our wild birds. The data we collect is made available to conservationists, planners and developers, and is used by organisations such as the RSPB, as one of the first points of reference in informed conservation planning.

Club Headquarters can be found at Waterston House, Aberlady, overlooking the scenic local nature reserve. Housed within, is the George Waterston Library, the largest ornithological library in Scotland, and the Donald Watson Gallery - one of the jewels in the Waterston House crown, exhibiting wildlife art all year-round.

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As well as receiving *Scottish Birds* every quarter, SOC members have access to a programme of talks and outings across Scotland and affiliation to a local branch of the Club. New members will receive a welcome pack on joining, plus a thank you gift if paying their subscription by direct debit.

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For more information about the Club and its activities, including details of how to join, please visit www.the-soc.org.uk or contact Waterston House on 01875 871 330, or email membership@the-soc.org.uk

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Making the most of the circumstances

Plate 146. Bainbridge and *Berberis*, July 2020. © *Carole Bainbridge*

What a strange summer; lockdown early on meaning the closure of Waterston House, and the early end of branch and other meetings, outdoors included. As the summer progressed, the slow lifting of restrictions meant that some bird monitoring could resume, and travel easing let us resume more normal birdwatching, albeit at social distances. As I write this, we have just reopened Waterston House on a part-time basis for sales and the art gallery, though staff continue to work from home for anything other than sales-related duties. We also have to thank a group led by David Rackham for developing useful guidance for branches about holding meetings virtually, which looks like the way in which we'll be able to meet for the rest of this year, including for the AGM. We do hope you'll join in with these; please do watch the website for the details as they are developed, subject to any future changes in restrictions, which I'm sure will come and go as we get secondary spikes during the autumn.

So, this strangest of years continues with much of the birdwatching and study being in the garden, and it continues to yield surprises. The Pied Wagtails fledged young from under the solar panels, Spotted Flycatchers have been regulars and it's great to hear the Green Woodpeckers in the wood behind the house.

In the garden, there is a large bush of *Berberis darwinii*, covered in orange flowers in spring and by mid-July laden with dark blue berries. The garden birdwatcher sees that the birds love these; the bush often has three or four Blackbirds and Blackcaps in residence; happily stuffing themselves. In particular, the Blackcaps are great to watch, as they hang off the berries as a means of pulling them off the bush. However, three or four short ringing sessions paint quite a different picture; this year I have now caught 34 different Blackbirds enjoying the berries, and find between ten and 20 different Blackcaps each year. More occasional visitors include Mistle and Song Thrushes, Garden Warbler and Whitethroat, Robins, Chaffinches, Blue Tits and Dunnocks. Shows just what wildlife planting can do in the garden, and it really makes you wonder just how many birds do visit the average garden for the early autumn bonus of *Berberis*, blackcurrants, raspberries and more.

It's the same at the bird feeders, especially feeding sunflowers year-round. It's perhaps not a surprise that I have caught 96 Blue Tits, but even I did not expect to catch 190 different Chaffinches over the summer. How far do they come to visit the sunflower bar? The one bird recovered was found in another garden around 2 km away a couple of weeks later, so do they have a circuit of places they visit on a regular basis? We still have so much to learn, even when we stay at home.

Ian Bainbridge, SOC President.

Plate 147. Male Merlin delivering prey to female at breeding site, lower Deeside, North-east Scotland, May 1986. © *Brian Cosnette*

Merlin breeding season diet on Deeside, North-east Scotland, in relation to area and land-use change

G.W. REBECCA

As part of a study of Merlin breeding ecology in North-east Scotland, diet was assessed from prey remains found at occupied breeding areas during 1980–2003. Small birds weighing 20–80 grams predominated, with five species - Meadow Pipit, Wheatear, Starling, Chaffinch and Skylark - making up around 80% of numbers and biomass (collective weight) from 10,657 bird items. A further nine bird species each accounted for at least 1% of numbers or biomass. In total, 59 bird species were recorded as prey, with a small number of partly-grown Red Grouse found at each of three study areas. In addition, 547 moths and 21 other items were found, but these were unimportant in biomass terms. During 1980–94, parts of one of the study areas were afforested with conifers, allowing comparison with the two other moorland areas managed primarily for commercial Red Grouse shooting. Land-use did influence prey selection, with significantly more woodland or scrub prey recorded at the afforested areas. However, the proportion of open-country prey did not change significantly over time at either study area, or with the age of the plantations, suggesting that Merlins did not alter their hunting pattern during the study period. The overall sample was an extensive prey list from Scotland north of the Highland Boundary Fault, and the largest in comparison with other British Merlin diet studies. To ensure future Merlin prey availability in North-east Scotland a habitat mix of extensive moorland, low-density mixed woodland and hill-farmland should be encouraged.

Introduction

The Merlin *Falco columbarius aesalon*, returned to the red list of Birds of Conservation Concern in the UK in 2015 (Eaton *et al.* 2015). Since the 1980s at least, the species has been subject to detailed monitoring of breeding areas by various raptor or upland bird study groups in Britain (e.g. Newton *et al.* 1986, Meek 1988, Ellis & Okill 1990, Rebecca *et al.* 1992, Roberts & Jones 1999, Wright 2005, Heavisides *et al.* 2018) with the breeding season diet well known from some

Table 1. The top five or six avian prey species in percent numbers and percent weight (where available) of Merlins from various breeding season studies throughout Britain in 1964–2005. * Classed as woodland or scrub species with the remainder classed as open-country species. Insects and other prey were considered unimportant by weight at all studies. + *Calidris alpina*, remainder of scientific names in Table 2. Sources: [1] Ellis & Okill (1990), [2] Rae (2010), [3] Meek (1988), [4] Weir (2013), [5] Heavisides *et al.* (1995), [6] Watson (1979), [7] Orchel (1992), [8] Newton *et al.* (1984), [9] Petty *et al.* (1995), [10] Bibby (1987), [11] Roberts & Jones (1999), [12] Wright (2005).

Study areas	[1]Shetland		[2]Lewis	[3]Orkney		[4]N Scotland	[5]SE Scotland		SW Scotland		[12]N England	NE England			Wales		
Years	**1984 –87**		**2003 –05**	**1981 –87**		**1964 –84**	**1984 –94**		**[6]1973**	**[7]1977 –80**	**1983 –02**	**[8]1974 –82**		**[9]1991 –92**	**[10]1981 –84**		**[11]1973 –89**
Sample sizes	1,248		692	845		681	2,040		161	152	175	2,001		880	6,366		1,645
Species	**%no.**	**%wt.**	**%no.**	**%no.**	**%wt.**	**%no.**	**%no.**	**%wt.**	**%no.**	**%no.**	**%no.**	**%no.**	**%wt.**	**%no.**	**%no.**	**%wt.**	**%no.**
Red Grouse						1		5									
Curlew											2						
Dunlin +	5	8															
Golden Plover			10														
Snipe			3					8	2								
Cuckoo									2								
Skylark	27	32	11	21	25	3	9	11	24	6		12	16	8	3	5	
Meadow Pipit	16	10	59	39	26	79	63	38	45	47	51	56	37	59	61	52	48
Pied Wagtail						1											
Whinchat															3		6
Stonechat										2							
Wheatear	39	34	10	6	6	6	6	5	4	7	4	2			5	5	5
Fieldfare				2	6							2	7			5	
Ring Ouzel											2						
Starling				2			3	6	14		30	4	9		3	9	
House Sparrow	4	4		18	17											8*	
Chaffinch*						3	5			3		6	5	12	8	7	6
Siskin*														4			
Crossbill*														4			
% totals	**91**	**88**	**93**	**88**	**80**	**93**	**86**	**73**	**91**	**65**	**89**	**82**	**74**	**87**	**83**	**83**	**73**

widely separated areas. The most important prey species from these previous diet studies, from over 16,500 items, are shown in Table 1.

Merlin breeding ecology has been studied in North-east Scotland since 1980, with around 45 breeding areas monitored annually on Deeside (Cosnette & Rebecca 1997). At that time, and later, some Merlins were still persecuted (e.g. Heavisides 1987, RSPB & NCC 1991, Rebecca *et al.* 1992, Cosnette & Rebecca 1997). In 1980–94, contiguous parts of the lower Deeside study area in North-east Scotland were afforested with conifers (Figure 1). This provided an opportunity for a comparative diet study from areas of changing land-use (moorland previously managed primarily for commercial Red Grouse *Lagopus lagopus scoticus* shooting to mixed age conifer plantations) with the remainder of the lower Deeside study area and from the rest of Deeside combined - with the Merlin breeding range in both latter areas dominated by heather moorland (*Calluna vulgaris* & *Erica spp.*) and principally managed for Red Grouse shooting (Rebecca *et al.* 1992).

Large scale commercial afforestation of moorland or blanket bog in the 1970s and 1980s was widely believed to have had a negative effect on breeding Merlins, by reducing the availability of hunting and nesting habitat (e.g. NCC 1986, Bainbridge *et al.* 1987, Thompson *et al.* 1988, Petty & Avery 1990). However, some Merlins used these new

plantations for breeding, the trait being well established in North-east England, South-west Scotland and Wales by the early 1990s (Little & Davison 1992, Orchel 1992, Parr 1994). Small bird diversity changes following afforestation of moorland or blanket bog - essentially from typical open-country species to typical woodland or scrub species (Jessop 1982, Petty & Avery 1990). Merlins utilise suitable prey broadly in the proportion that it occurs in the nearby environment (Baker & Bibby 1987). Consequently, it could be expected that the Merlin diet at the lower Deeside afforested areas would contrast with that from the two moorland study areas.

This paper reports on some of these aspects from North-east Scotland during 1980–2003 with three main aims. First, to describe the Merlin breeding season diet from April to July, the main period when breeding areas are occupied. Second, to quantify the number of Red Grouse taken per study area per year. Third, to compare the diet from three study areas on Deeside (Figure 1). All visits and photographs at breeding areas were covered under annual Schedule 1 licences issued by the Nature Conservancy Council or Scottish Natural Heritage (SNH).

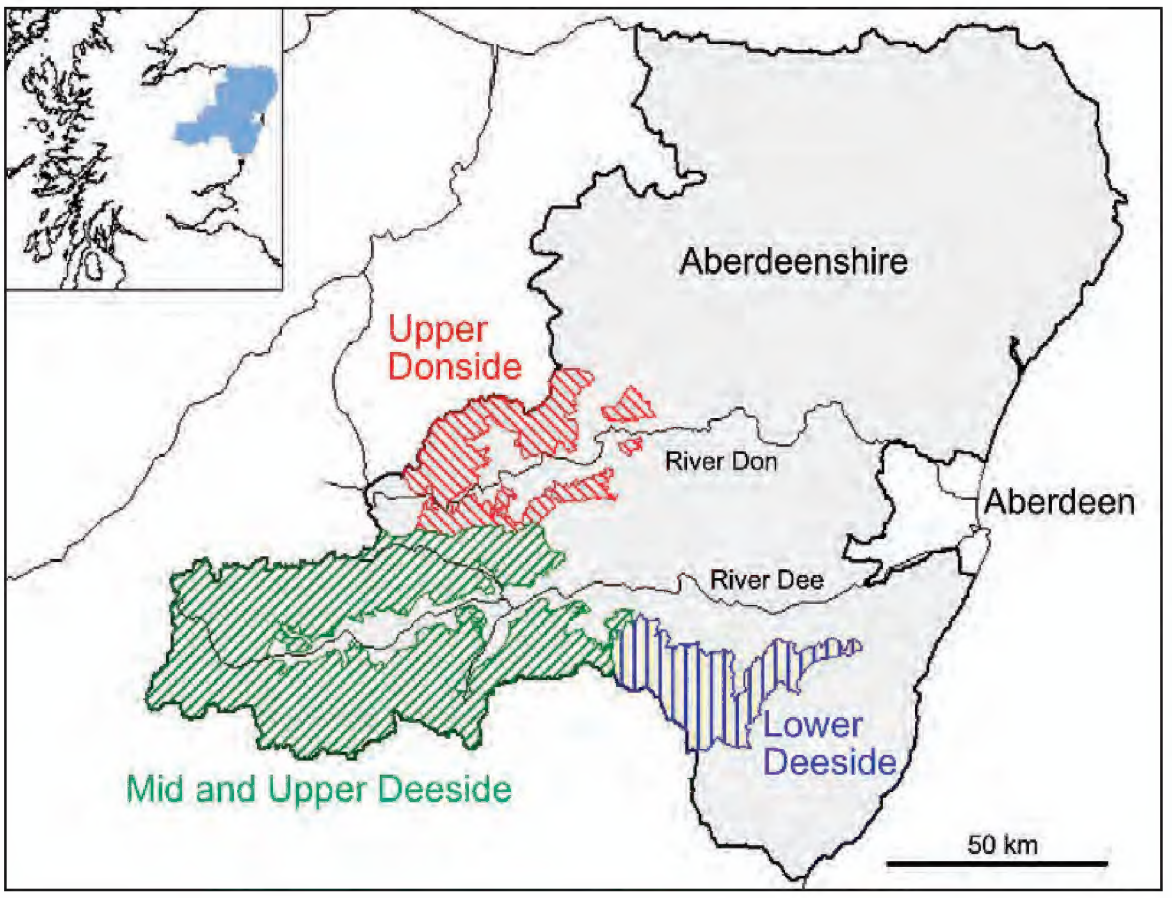

Figure 1. Merlin breeding ranges in Aberdeenshire, North-east Scotland (Cosnette & Rebecca 1997). The two Deeside areas were used for this paper. The eastern third of the lower Deeside study area was progressively afforested from east to west during 1980–94, encompassing nine of the 25 breeding areas known for that area (Rebecca 2006) and for this paper is described as lower Deeside forestry (LDF). Likewise, the remainder of the lower Deeside study area is described as lower Deeside managed grouse moor (LDM), with the third study area described as mid and upper Deeside managed grouse moor (MUDM).

Methods

Locating, identifying and quantifying prey remains

Merlin hunting techniques of surprise attack or sustained chasing, and their large hunting range ruled out direct observations as a method for studying breeding season diet (e.g. Becker & Sieg 1987, Schempf 1989, Rebecca *et al.* 1990, Parr 1992, Dickson 2002). In Britain, during the breeding period, Merlins pluck prey near to their eventual nest, with small birds predominating (Cramp & Simmons 1980, Table 1). They also produce regurgitated pellets of indigestible material, but pellet analysis is not considered practical for Merlin diet study because the feather remains are difficult to identify (I. Newton pers. comm., but see Clarke 1993) and it is not possible to determine whether insect remains were from insects taken by the Merlins or their prey (Newton *et al.* 1984). It is generally regarded that remains at plucking sites is the most relevant method for assessing Merlin breeding season diet; although this is believed to under-represent insects, any possible bias is negligible in terms of overall prey weight (e.g. Newton *et al.* 1984, Bibby 1987, Heavisides *et al.* 1995, Fernandez-Bellon & Lusby 2011). As such, prey remains located at occupied breeding areas were used to assess Merlin diet in this study.

Plate 148. Fallen Scots Pine *Pinus sylvestris* used by Merlins for plucking prey, upper Deeside, North-east Scotland, June 2008. The Merlins were nesting in an old crow nest in a Scots Pine about 30 m into the old Caledonian pine forest. © *Graham Rebecca*

During April to July, plucking sites were located in occupied breeding areas and searched for fresh prey remains. These were often distinct boulders, hummocks, shooting butts, fence posts, dead trees or stumps, or bare areas of ground such as recently burnt patches of vegetation (e.g. Plates 148–150). Prey remains were also found at nests after the hatch (Plates 151 & 153). Initially they were collected and bagged at each visit, noting date and breeding area. Species identification was determined by comparing with specimens at Aberdeen University Zoology Museum, or from literature keys or photographs (Yalden 1977, Watson & Whalley 1983, Brown *et al.* 1987). An ongoing reference collection of samples, particularly of wings and tails, of actual and potential Merlin prey species was compiled. With these aids virtually all prey remains could be identified. To quantify numbers, diagnostic legs, primary, secondary or tail feathers or moth wings were counted, giving a minimum number of individuals for any species (Watson & Whalley 1983, Brown *et al.* 1987). Once the reference collection was comprehensive, most remains were identified and quantified on site and buried. To establish if afforestation may have influenced prey selection, woodland or scrub and open-country species were categorised and separated as in previous British Merlin diet studies (e.g. Newton *et al.* 1984, Bibby 1987, Heavisides *et al.* 1995).

Plate 149. Boulder used by Merlins for perching and plucking prey, lower Deeside, North-east Scotland, May 1985. © *Graham Rebecca*

Plate 150. Boulder used by Merlins for perching and plucking prey, lower Deeside, North-east Scotland, June 1985. © *Graham Rebecca*

Prey weights for biomass calculations and statistical analyses

The weights of prey species (biomass) were estimated following those used in other British Merlin diet studies (I. Newton pers. comm. for North-east England, Meek 1988, Ellis & Okill 1990, Heavisides *et al.* 1995) and are detailed in Table 2. When the remains of partly grown waders or grouse were found their size was estimated as: downy chick (c), about $^1/_4$ grown (q), about $^1/_2$ grown (h) and about $^3/_4$ grown (tq) and the weights calculated accordingly. For passerines, fledglings (fl) and nestlings (n) were estimated at $^1/_2$ and $^1/_4$ of the adult weight respectively.

To assess differences in the number of open-country and woodland or scrub prey between the three study areas, a generalised linear mixed model with a binomial error structure and logit link function was used (SAS 2001). The proportion of open-country prey was used as the dependent variable, with both land-use categories (afforestation and 'grouse-moor') included as explanatory variables, and year and breeding area as random variables. The model controlled for, or attempted to limit, bias through pseudo-replication (Townend 2002, Rebecca 2006).

Results

Overall diet

A total of 11,225 prey items was recorded during 1980–2003 (Table 2). This comprised 10,657 birds of 59 species, 547 moths, almost all from two species, and 21 other items covering small mammals, butterflies, dragonflies, ground beetles and a frog. There were 1,924 (17%) items from the LDF area, 5,474 (49%) from the LDM area and 3,827 (34%) from the MUDM area.

Birds accounted for 94.9% and 99.5%, and moths 4.9% and 0.5% of items and biomass respectively (Table 2). The moths and other prey were therefore insignificant in biomass terms and are not considered further. The same five species made up 83% and 80% of numbers and biomass respectively from the bird totals - Meadow Pipit (65.5% & 52.4%), Starling (2.4% & 8.9%), Wheatear (6.7% & 8.2%), Chaffinch (6.0% & 6.1%) and Skylark (2.3% & 3.9%) (Table 2). A further nine species each accounted for at least 1% of items or biomass. These were partly-grown Red Grouse, Snipe, Swallow, Pied Wagtail, Whinchat, Willow Warbler, Goldcrest, Siskin and Linnet (Table 2). The Scientific names for all prey species are given in Table 2.

Table 2. Prey species of breeding Merlin from Deeside North-east Scotland, during April to July in 1980–2003. Weights from various British Merlin diet studies and are detailed in the Methods. + represents partly grown juveniles only and * classed as woodland or scrub species following Newton *et al.* (1984) and Heavisides *et al.* (1995). Calculation of weights of partly grown juveniles (c, q, h, tq, fl, n) explained in the Methods. Birds with >1% in numbers or biomass (number x weight in grams) from bird totals in **blue** and **red** respectively.

Species / Scientific name	Weight (g)	Number	> 1%	Biomass (g)	> 1%
Red Grouse+ *Lagopus lagopus scoticus*	c 50, q 100	44 c, 30 q = 74		5,200	2.2
Black Grouse*+ *Lyrurus tetrix*	c 50, q 150	9 c, 8 q = 17		1,650	
Grey Partridge *Perdix perdix*	150	1		150	
Oystercatcher+ *Haematopus ostralegus*	h 250	1 h		250	
Golden Plover *Pluvialis apricaria*	200, c 50, h 100	2, 5 c, 1 h = 8		750	
Lapwing+ *Vanellus vanellus*	c 50, q 75, h 100	16 c, 3 q, 1 h = 20		1,125	
Curlew+ *Numenius arquata*	c 50, q 170	2 c, 2 q = 4		440	
Redshank *Tringa totanus*	150	8		1,200	
Common Sandpiper *Actitis hypoleucos*	66	6		396	
Snipe *Gallinago gallinago*	106, tq 80	24, 3 tq = 27		2,784	1.2
Stock Dove* *Columba oenas*	300	1		300	
Feral Rock Dove *Columba livia*	350	4		1,400	
Cuckoo *Cuculus canorus*	115, tq 80	1, 1 tq = 2		195	
Wryneck* *Jynx torquilla*	80	1		80	
Skylark/fledgling *Alauda arvensis*	37	242/4 = 246	2.3	9,028	3.9
Sand Martin *Riparia riparia*	15	24		360	
Swallow *Hirundo rustica*	20	210	2	4,200	1.8
House Martin *Delichon urbica*	18	2		36	

Meadow Pipit *Anthus pratensis*	20	5,368	65.5	107,360	52.4
M P fledgling/nestling *Anthus pratensis*	fl 10, n 5	1,290/319 = 1,609	/	14,495	/
Grey Wagtail *Motacilla cinerea*	17	21		357	
Pied Wagtail/fledgling *Motacilla alba*	21	147/10 = 157	1.5	3,192	1.4
Dipper *Cinclus cinclus*	64	1		64	
Wren* *Troglodytes troglodytes*	9	58		522	
Dunnock* *Prunella modularis*	21	7		147	
Robin* *Erithacus rubecula*	18	38		684	
Bluethroat* *Luscinia svecica*	18	1		18	
Redstart* *Phoenicurus phoenicurus*	14	6		84	
Whinchat/fledgling *Saxicola rubetra*	18	122/7 = 129	1.2	2,259	1
Stonechat *Saxicola rubicola*	15	2		30	
Wheatear/fledgling *Oenanthe oenanthe*	27	689/27 = 716	6.7	18,968	8.2
Ring Ouzel/fledgling *Turdus torquatus*	100	21/1 = 22		2,150	
Blackbird* *Turdus merula*	96	13		1,248	
Fieldfare *Turdus pilaris*	110	4		440	
Song Thrush* *Turdus philomelus*	74	22		1,628	
Redwing *Turdus iliacus*	67	2		134	
Mistle Thrush* *Turdus viscivorus*	118	15		1,770	
Willow Warbler*/fledgling *Phylloscopus trochilus*	9	123/2 = 125	1.2	1,116	
Goldcrest* *Regulus regulus*	6	220	2.1	1,320	
Spotted Flycatcher* *Muscicapa striata*	15	3		45	
Long-tailed Tit* *Aegithalos caudatus*	9	3		27	
Coal Tit* *Periparus ater*	9	27		243	
Blue Tit* *Cyanistes caeruleus*	11	49		539	
Great Tit* *Parus major*	18	23		414	
Treecreeper* *Certhia familiaris*	9	8		72	
Starling *Sturnus vulgaris*	80	258	2.4	20,640	8.9
House Sparrow* *Passer domesticus*	30	20		600	
Chaffinch* *Fringilla coelebs*	22	642	6	14,124	6.1
Brambling* *Fringilla montifringilla*	22	3		66	
Greenfinch* *Chloris chloris*	28	69		1,932	
Goldfinch* *Carduelis carduelis*	17	11		187	
Siskin* *Spinus spinus*	14	125	1.2	1,750	
Linnet*/fledgling *Linaria cannabina*	18	126/1 = 127	1.2	2,277	1
Redpoll* *Acanthis flammea*	13	2		26	
Crossbill* *Loxia curvirostra*	41	5		205	
Bullfinch* *Pyrrhula pyrrhula*	24	18		432	
Snow Bunting *Plectrophenax nivalis*	34	2		68	
Yellowhammer* *Emberiza citrinella*	26	53		1,378	
Reed Bunting *Emberiza schoeniclus*	20	3		60	
Budgerigar *Melopsittacus undulatus*	25	1		25	
unidentified fledgling/nestling	fl 10, n 5	5/8 = 13		90	
Total birds (%)		**10,657**	**(94.9)**	**232,730**	**(99.45)**
Emperor *Saturnia pavonia*	2	232		464	
Northern Eggar *Lasiocampa quercus*	2	314		628	
Kentish Glory *Endromis versicolora*	2	1		2	
Total moths (%)		**547**	**(4.9)**	**1,094**	**(0.47)**
Small Tortoiseshell *Aglias urticeae*	2	4		8	
Field Vole *Microtus agrestis*	20	2		40	
Shrew sp. *Sorex aroneus/minutus*	10	1		10	
unidentified small mammal *Microtus - Sorex*	15	7		105	
Dragonfly/Ground Beetle *Anisoptera/Carabidae*	2/1	3/3 = 6		9	
Frog *Rana temporaria*	20	1		20	
Total other (%)		**21**	**(0.2)**	**192**	**(0.08)**
Grand total		**11,225**		**234,016**	

Red Grouse

Seventy-four partly-grown Red Grouse were recorded as prey (44 downy chicks and 30 up to ¼ grown, Table 2). These comprised nine from the LDF area (mean 0.4 per year, range 0–3), 27 from the LDM area (mean 1.1 per year, range 0–4) and 38 from the MUDM area (mean 1.6 per year,

range 0–10) (Table 3). The overall mean from a possible 13 estates combined was 3.1 grouse per year (Table 3) and equivalent to 0.2 grouse per year per estate for the 24-year period - or an average of one young grouse every five years across estates.

Comparison of Merlin bird diet between study areas

There was a highly significant difference in the proportion of open-country bird prey across study areas ($F_{1,40}$ = 10.1, P = 0.003) with fewer open-country bird prey found at the LDF area (Table 4). In contrast, in terms of the proportion of open-country bird prey over time, there was no significant change at either study area (LDF, $F_{1,58}$ = 1.72, P = 0.194; LDM, $F_{1,146}$ = 0.86, P = 0.356; MUDM, $F_{1,139}$ = 3.16, P = 0.079) (Figure 2). Nor was there any significant change in the proportion of open-country bird prey in the LDF area in relation to the age of the plantations ($F_{1,44}$ = 2.25, P = 0.141).

Table 3. Annual and study area totals and means of partly-grown Red Grouse taken as prey by Merlins in North-east Scotland in April to July 1980–2003. LDF - lower Deeside forestry, LDM - lower Deeside managed grouse moor, MUDM - mid and upper Deeside managed grouse moor.

Study areas	Number of estates	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Totals	Annual means
LDF	3					1	1	3		1							1					1	1			9	0.4
LDM	6		1	1	3	2	3	4	2	1							1	1		1	1	3		2	1	27	1.1
MUDM	4					2	6	3	5	10						1				1	1		4	4	1	38	1.6
Totals	13		1	1	3	5	10	10	7	12						1	2	1		2	2	4	5	6	2	74	3.1

Table 4. The number and percentage of open-country and woodland or scrub bird prey of Merlin from three study areas in North-east Scotland during 1980–2003. LDF - lower Deeside forestry, LDM - lower Deeside managed grouse moor and MUDM - mid and upper Deeside managed grouse moor.

Study area	Bird prey type	
	Open-country	Woodland or scrub
LDF	1,322 (75%)	451 (25%)
LDM	4,299 (84%)	849 (16%)
MUDM	3,324 (89%)	412 (11%)
All Deeside	8,945 (84%)	1,712 (16%)

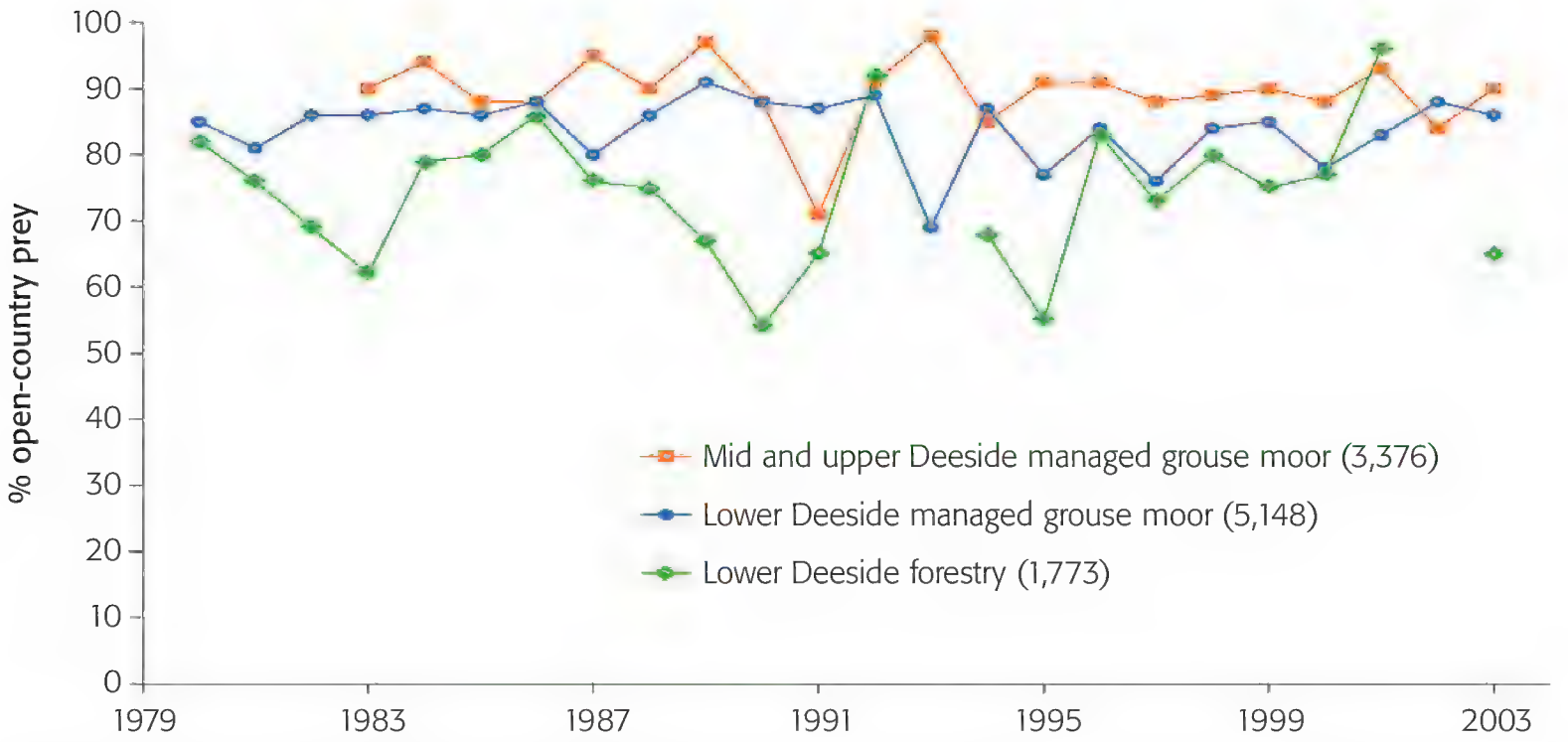

Figure 2. The percentage of open-country bird prey of Merlins at three study areas on Deeside, North-east Scotland in 1980–2003. Sample sizes in brackets. For the Lower Deeside forestry area, the period of afforestation covered 1980–94.

Plate 151. Female Merlin with prey at nest, lower Deeside, North-east Scotland, June 1986. © *Graham Rebecca*

Plate 152. Recently fledged Meadow Pipit, Strath Fillan, Upper Forth, July 2011. Meadow Pipits were the most important prey in this study. © *Theo Beunen*

Discussion

Small birds were the most important Merlin prey in North-east Scotland. Five bird species made up 80% of the biomass - five or six bird species also made up 73–88% of the biomass at five other study areas in Britain (Table 1) indicating that Merlins rely on only a few bird species for the bulk of their breeding season diet. By far the most important prey in North-east Scotland was the Meadow Pipit (Plate 152) as had been found in other studies (Table 1). Most bird prey in North-east Scotland was classed as open-country, with woodland or scrub species accounting for 11–25% of prey in the different study areas. Maintaining a mix of extensive heather moorland, low-density conifer and broadleaf woodland, and hill-farmland should be considered a priority for Merlin conservation in North-east Scotland (see also Weir 2013).

Red Grouse prey was minimal, as had been found across the British Merlin breeding range (Table 1 references, Brown 1976, Ratcliffe 1990, Marchant 2007). Red Grouse is a common species in North-east Scotland, with a recent estimate of 40,000 adults (Watson 2011) and this study confirms that Merlins are not a threat to them.

Plate 153. Female Merlin feeding young, North York Moors, Yorkshire, June 1994. © *John Knight*

Merlins have been shown to utilise potential prey broadly in proportion to their abundance in the surrounding environment (Baker & Bibby 1987). On the afforested areas, the ratio of open-country to woodland or scrub bird prey was 3:1 indicating that the Merlins hunted primarily over open-country and avoided the plantations. There is proportionally less commercial afforestation and more mountainous ground above 550 m within the Merlin breeding range in mid and upper Deeside compared to lower Deeside (Buckland *et al.* 1990, Rebecca *et al.* 1992, providing more potential open-country foraging area for Merlins in mid and upper Deeside and probably explains why more open-country bird prey was taken there.

In the afforested areas, the abundance of potential Merlin prey did not greatly differ from that in either of the moorland areas (G.W. Rebecca *unpublished line transect counts*). However, the Merlins continuing to occupy the afforested areas appeared not to respond fully to the difference in habitat, implying that they either hunted the remaining unplanted areas such as forest roads and verges, rides, riparian areas and plateau moor, or foraged further afield. It is plausible to suggest that most of the woodland or scrub bird prey resource at the lower Deeside conifer plantations may have been difficult to catch because the density of trees provides so much additional cover (e.g. NCC 1986, Petty & Avery 1990).

Merlins can have large breeding season hunting ranges. For example, in Wales a radio-tagged male hunted up to 4 km from the nest (Parr 1992) and in Alaska USA, foraging flights of six radio-tagged breeding male 'Taiga Merlins' *F. c. columbarius* averaged 3.5 km from the nest, with the maximum over 8 km (Schempf 1989). Further, three radio-tagged breeding male 'Richardson's Merlins' *F. c. richardsonii* in South-east Montana USA, had home ranges of 13, 23, and 28 km^2, with each male flying up to 9 km from the nest (Becker & Seig 1987). On lower Deeside, breeding Merlins were known to hunt hill-farmland up to 5.6 km from the nest, with the mean distance from 16 ringed wader chicks taken as prey being 3.4 km (Rebecca *et al.* 1990). In addition, a late forest nesting pair on lower Deeside in 1991 appeared to specialise on Swallows with 51 of 118 birds taken. It was likely that most of the Swallows were caught over the forest canopy (Rebecca 2004). Although the evidence is limited, the LDF Merlins probably avoided the actual plantations, but hunted the unplanted areas and forest edge, and open-moorland and hill-farmland further afield.

This study did not have the resources to examine home ranges or hunting methods preferences in detail, for example by applying extensive vantage point watches or radio-telemetry of adults. In two previous British Merlin breeding studies in commercial conifer plantations, males were believed to primarily hunt open areas during the nestling and early fledging periods (Watson 1979, Parr 1992). In the first study, at a mix of young conifer plantation and moorland in South-west Scotland, males returned to two nests under observation from the direction of moorland in 88% and 99% of prey deliveries from 58 and 73 hunts respectively (Watson 1979). In the second study, at mixed age conifer plantations, moorland and farmland in North Wales, a radio-tagged male primarily hunted grass-dominated moorland, and to a lesser extent heather-dominated moorland and 15–20 years old Sitka Spruce *Picea sitchensis* plantation. This male largely avoided hunting over farmland and mature Sitka Spruce plantation (Parr 1992).

Merlins declined at the LDF area over the study period, from six breeding pairs in 1982, 1991 and 1992 to one pair in 1999–2003 (Rebecca 2006). Further annual monitoring in 2004–19 found no breeding pairs at the afforested areas, but relative stability at the LDM area (5–9 pairs; Rebecca *et al. in preparation*). Hence, there was no further opportunity to record Merlin prey at the afforested areas in 2004–19 and the comparative diet aspect of the study concluded in 2003.

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Plate 154. Aerial photograph of the main tern terrace at the Beacon colony, Isle of May, September 2019. © *Sam Oakes*

Terns - restoring diversity to the Isle of May's breeding seabirds

D. STEEL & B. OUTRAM

Introduction

The Isle of May National Nature Reserve is a volcanic greenstone island located at the mouth of the Firth of Forth, 8 km south-east of Anstruther. Owned and managed by Scottish Natural Heritage (SNH), it is 1.5 km long and 0.5 km wide with an area of 57 ha at high tide. It became a designated National Nature Reserve in 1956 and is designated as a Site of Special Scientific Interest, Special Area of Conservation and is a part of the Forth Islands Special Protection Area.

The island is significant for its seabird assemblage and is the only large seabird colony in Fife. The Puffin *Fratercula arctica* colony is the third largest in the UK and internationally important, while breeding Shag *Phalacrocorax aristotelis*, Guillemot *Uria aalge*, Kittiwake *Rissa tridactyla* and Eider *Somateria mollissima* are present in nationally important numbers. In winter, the island supports nationally important concentrations of Turnstone *Arenaria interpres* and Purple Sandpiper *Calidris maritima*. During the autumn and winter the island supports a substantial population of breeding Grey Seals *Halichoerus grypus* with an annual production of over 2,500 pups. The Isle of May vegetation has been heavily modified by the impact of seabirds, seals and the Rabbit *Oryctolagus cuniculus* population, but, nevertheless, it still has the most extensive and least-disturbed maritime cliff grasslands in Fife. On the areas most influenced by salt spray, Thrift *Armeria maritima* dominates with Lesser Sea Spurrey *Spergularia marina*, Sea Milkwort *Glaux maritima* and Scurvygrass *Cochlearia officinalis* also occurring. Further inland from the shore, the vegetation comprises extensive areas of Sea Campion *Silene uniflora*.

Historical data

Terns have a chequered history on the Isle of May with the first documented reference to breeding terns occurring probably around the 1820s (Jardine 1843). Roseate Terns *S. dougallii* bred "in considerable numbers" and Arctic Terns *S. paradisaea* were "also plentiful". At the same time, small numbers of both Common Terns *Sterna hirundo* and Sandwich Terns *Thalasseus sandvicensis* nested on the island. However, there was subsequently a notable absence with no terns breeding between the mid-19th century and their return in 1921 (Eggeling 1960).

Tern numbers between 1921 and 1957 varied greatly with all four species breeding, and a noticeable peak in 1946 when the island was estimated to hold 6,800 to 8,100 pairs, mainly of Common Terns (Wanless 1988). However, after this impressive peak, numbers declined, breeding success was poor, and from 1958 to 1981 there were only seven nesting records of Common Tern and one of Arctic Tern (Wanless 1988).

Since the 1980s, terns have bred annually on the island although numbers have fluctuated from 400 to 700 pairs. The area near the Beacon has been a good area for nesting terns whilst other areas which have been utilised include the Priory, Kirkhaven jetty-beach area, Thistle Field, Rona, and North Plateau amongst others. Numbers peaked at over 1,000 nesting pairs of Common and Arctic Terns in 1999–2001, with 303 and 908 pairs respectively in 2000. However, since then, another steady decline occurred with only 51 pairs (17 Common and 34 Arctic) nesting in 2010. As a result of a combination of habitat management and improved protection, numbers have since recovered to a mean of 544 pairs between 2015 and 2019 (compared to a mean of 284 pairs in the period 2010–14). Throughout the past three decades Sandwich Terns only attempted to breed on eight occasions peaking at 305 pairs in 2001. In contrast, a single pair of Roseate Terns bred (unsuccessfully) in 1995 and 1996.

Visitors and colony management

The Isle of May is open from 1 April to 30 September (weather permitting) and welcomed over 14,000 visitors during the 2019 season. All boats are licenced by SNH, and visits are restricted to three hours per day with a closed day every week during the seabird breeding season. Upon arrival on the island, all visitors gather for an introductory talk from a member of the SNH team. This also gives staff an opportunity to mention the tern colonies, how to behave around them and the importance of minimising disturbance. The main tern colonies near the jetty are cordoned off with rope fences whilst half of the Thistle Field is closed completely to visitors. Information signs are also located in various areas informing visitors of the proximity of tern breeding grounds and outline the risks associated with disturbance.

Plate 155. The tern terraces with the specialist boxes, Isle of May, May 2016. © *David Steel*

As well as visitor management, a number of other tools are used to help safeguard nesting terns on the island including:

- *Garden canes* Canes of varying sizes are placed into the ground around each tern nest and/or exposed areas within each colony to discourage opportunistic gulls from predating eggs/young. Compared to large gulls, terns are agile enough to manoeuvre around the canes.

- *Chicken wire* Chicken wire fences are placed on the boundaries of some of the tern colonies which are particularly vulnerable to gulls walking in and accessing eggs/young; this also reduces the threat from Oystercatchers *Haematopus ostralegus* which was an issue in 2018. Wire is also used where the tern colony meets the footpaths to stop chicks running out into public areas.

- *Tern shelters* Wooden 'apex' shelters are placed near more exposed nests to provide chicks with shelter from predators and the elements whilst adults are away foraging.

- *Tern boxes* Specially built tern nest boxes are successfully utilised by breeding Roseate Terns at the main colonies of Coquet Island (England) and Rockabill (Ireland). Since 2015, attendees on the jointly run Isle of May Bird Observatory Trust/Scottish Ornithologists' Club's Young Birders' Training Course have helped construct over 100 wooden boxes. There was also a very gratefully received donation of recycled plastic boxes supplied by the Roseate Tern LIFE partnership bid. These boxes provide cover for chicks and one was used successfully by a Roseate Tern x Common Tern hybrid pairing in 2019.

Management discussion

After the 2015 seabird breeding season, discussions took place and plans were devised to shape the future management of the island to enhance nesting habitat for the main nesting species of terns. The short-term goals were to improve nesting habitat, increase productivity and increase tern breeding numbers, whilst long-term aims were to attract both Sandwich and Roseate Terns back to the island.

Overall, two areas were identified which could be managed for nesting terns, including the area surrounding the Beacon Lighthouse and the second, known as the Thistle Field (or Mouse House Field). Both areas had a number of advantages including:

- Being traditionally good for nesting terns.

- The presence of concrete building foundations to facilitate the construction of terraces for terns and to limit vegetation growth. A number of buildings were present as a result of the Second World War, including a coastguard signal station at the Beacon (demolished in 1980) and naval huts in the Thistle Field (demolished in 1961), and the concrete foundations are still in good condition.

- The two areas were very different; the Thistle Field is open to the public whilst due to the topography of the island the area around the Beacon is generally sheltered from the prevailing winds and undisturbed by human visitors.

- Both areas were deemed to have low vegetation importance with predominantly Common Nettle *Urtica dioica*, Sea Campion *Silene uniflora* and Yorkshire Fog *Holcus lanatus* dominating; all three species are common across the island.

- Both areas also have few to no breeding gulls. The closest breeding gull species would be 15 m from the Thistle Field and 30 m from the Beacon, a reasonable distance considering the numbers of gulls and the size of the island.

Plate 156. Tern terrace, Isle of May, May 2019. © *David Steel*

Tern terrace construction

During the autumn of 2015, the first construction phase was undertaken with the addition of timber edging to the existing concrete bases at the beacon; these were then back-filled with locally sourced sand and gravel from the island. Although simple in design, this has transformed the large flat concrete bases (which had very little wildlife value) into areas suitable for nesting terns, now known as the 'tern terraces.' Further expansion took place over the following three years with areas of membrane laid to restrict vegetation growth and allow more sand and gravel to be added. Starting in 2017, areas with concrete bases in the Thistle Field were also covered in locally sourced sand and gravel and this work was completed in 2018. Overall, as of 2019, a total of 348 m^2 at the Beacon and 252 m^2 at the Thistle Field had been transformed into terraces suitable for nesting terns.

Plate 157. Nesting Sandwich Tern on the tern terraces, Isle of May, June 2019. © *Keith Brockie*

Results

The following is a brief summary of each species and the results after the construction and expansion of the tern terraces.

Arctic Tern

After the construction of the initial tern terrace in winter 2015/16, Arctic Terns showed an increase as they adapted to the new structures well with a total of 77 pairs nesting during the 2016 season. Thereafter, further increases were noted although a dip in tern numbers across all the colonies (and the Firth of Forth in general) in 2018 had an effect. During the 2019 breeding season, 152 pairs nested on the artificial tern terraces, representing 31% of the entire colony. Productivity during this period was good, particularly in 2016 and 2019.

Common Tern

This is traditionally a species which has nested in low numbers on the island and most have concentrated their nesting efforts on the Beacon area. The species took readily to the new terraces although it was noticeable that they preferred more open areas rather than those with tern boxes. Numbers showed a welcome increase peaking at 51 pairs nesting in 2019; the highest island population since 2009. This species remains a key element in potentially attracting breeding Roseate Terns and will be the focus of future management.

Sandwich Tern

After the construction of the first tern terrace in the winter of 2015, it was not expected to be an immediate success in the next breeding season. However, in the summer of 2016, a small number of Sandwich Terns started to take an interest and on 3 June the first egg was discovered. Over the subsequent three weeks, 21 pairs nested and these fledged 16 young. This was the first breeding attempt since two pairs in 2008 and proved a remarkable and quick success story for the tern terraces. Since then, the species has become a regular breeder with successful breeding attempts in three of the four years since the tern construction, with ten pairs nesting in 2019.

Plate 158. Adult Roseate Tern (the bird that bred), Isle of May, June 2019. © *Keith Brockie*

Roseate Tern

In June 2019, a Roseate Tern paired with a Common Tern at the Beacon tern terraces and nested in an artificial box (Steel & Outram 2020). One hybrid chick successfully fledged and was last seen on the island on 8 August. This was a significant development for the terraces on the island and, although the adult Roseate hybridised with a Common Tern, it shows that suitable habitat was available to attract a nesting bird. Optimism for the future has increased and further work may lead to future nesting attempts.

Table 1. Year-by-year comparison of tern numbers at the Beacon tern terrace.

	Arctic Tern	Common Tern	Sandwich Tern
2016	77	19	21
2017	125	29	4
2018	53	17	0
2019	136	51	10

Table 2. Year-by-year comparison of Arctic Tern numbers in the Thistle Field tern terrace.

	Arctic Tern
2016	0
2017	44
2018	16
2019	16

Conclusion

In summary, the construction of artificial tern terraces has helped increase tern numbers over the four-year period across the Isle of May with 35% of all nesting birds in 2019 utilising the terraces. It was also a contributing factor to Sandwich Terns returning as a breeding species, whilst also attracting a Roseate Tern to breed for the first time in recent decades. Further work, including expansion of the terraces and increasing the number of tern boxes will hopefully continue to provide further suitable nesting habitat for all four species of tern.

Acknowledgements

A number of people contributed to the design and construction of the tern terraces over the five years including James Crymble, Viv Hastie, Ellen MacKenzie, Sacha Riley-Smith, Rebecca Lakin, Sally Reay, Ella Benninghaus, Cristín Lambert and Caroline Gallacher, various SNH volunteer work parties, members of the Roseate Tern LIFE recovery project team including Daniel Piec, Chris Redfern and Paul Morrison. Thanks also to the participants on the annual SOC/IoMBO Trust's Young Birders' Training Course for construction of boxes over the years.

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Amendments to the *Scottish List*: species and subspecies

THE SCOTTISH BIRDS RECORDS COMMITTEE

In 1993, the Council of The Scottish Ornithologists' Club (SOC) delegated to the Scottish Birds Records Committee (SBRC) responsibility for producing a *Scottish List* and publishing regular amendments. The list was first published in 1994 and SBRC appointed a sub-committee to maintain it; the current members are Dave Clugston, Ron Forrester, Angus Hogg, Bob McGowan, Chris McInerny and Roger Riddington.

SBRC established several principles for the original version of the *Scottish List*, which are still followed. The British Ornithologists' Union (BOU) has maintained the official British List since 1883 and SBRC adopts its taxonomy, sequence, scientific and English names, and species categorization for the *Scottish List*.

The BOU Records Committee (BOURC) normally only adjudicates on the first British record for any bird taxon. Responsibility then lies with the British Birds Rarities Committee (BBRC) for acceptance of all subsequent records of rare species and subspecies in Britain. Similarly, SBRC is responsible for acceptance of records of species and subspecies which fall outside the remit of BBRC, but which remain rare in a Scottish context. Decisions by BOURC, BBRC and SBRC automatically apply to the *Scottish List*.

The *Scottish List* was most recently published in full in 2011, with annual updates from 2013 to 2018 (cited in Forrester 2018) and 2019 (Forrester 2019). Since then, there have been three publications that affect the *Scottish List*. BOURC has published its 50th (BOU 2020a) and 51st Reports (BOU 2020b) and BBRC (Holt *et al.* 2019) its annual report covering 2018. SBRC (McInerny & McGowan 2020) have also produced their annual report covering 2017, but on this occasion, there are no records affecting the *Scottish List*.

The current updated version of the *Scottish List* in Excel format can be found on the SOC website at: www.the-soc.org.uk/bird-recording/the-scottish-list/

BOURC decisions which affect the *Scottish List*

Cormorant *Phalacrocorax carbo* **'Continental Cormorant'** *P. c. sinensis*

1873 **Orkney** adult male, 30 March, specimen at National Museums Scotland, Edinburgh (specimen National Museums Scotland NMS.Z 1888.84.162) (*per* T.W. Dougall, R.Y. McGowan) (*Ibis* 162: 600–601, *Scottish Birds* 38: 136–138, *British Birds* 113: 418–421).
Accepted by BOURC as the first British (and Scottish) record of this subspecies (BOU 2020b). This predates the previous earliest record.

Yellow-legged Gull *Larus michahellis* **'Azorean Yellow-legged Gull'** *L. m. atlantis*

2005 **Outer Hebrides** Craigston, Barra, 4cy+, 10 September, photo (A. Stevenson) (*Ibis* 162: 266, *British Birds* 109: 596–597, 110: 666–674, 112: 584).
Accepted by BOURC as the first British record of this subspecies (BOU 2020a).
Add subspecies to *Scottish List*. Status code V.

Little Auk *Alle alle* **'Franz Josef Land Little Auk'** *A. a. polaris*

1956 **Shetland** Lerwick, Mainland, 2cy+ female, 19 January, found dead (specimen Bolton Museum INV:19160) (*per* R.Y. McGowan, C.J. McInerny) (*Ibis* 162: 264, *British Birds* 112: 587, *Scottish Birds* 38: 297–303).
Accepted by BOURC as the first British record of this subspecies (BOU 2020a).
Add subspecies to *Scottish List*. Status code V.

Plate 159. 'Taiga Merlin', Scrabster, Caithness, 3 February 2018. © *Nina O'Hanlon*

Merlin *Falco columbarius* **'Taiga Merlin'** *F. c. columbarius*

2018 **Caithness** Burnside, Scrabster, 2cy+, 3–18 February, photo (N. O'Hanlon, R. Hughes) (*Ibis* 162: 600).
Accepted by BOURC as the first British record of this subspecies (BOU 2020b, *British Birds* 111: plate 89).
Add subspecies to *Scottish List*. Status code V.

Shore Lark *Eremophila alpestris* **'North American Horned Lark'** *E. a. alpestris/praticola/hoyti*

2014 **Outer Hebrides** Aisgernis (Askernish), South Uist, 1cy+, 9–14 October, photo (S.E. Duffield, J.B. Kemp, A. Stevenson, I. Thompson) (*Ibis* 162: 600).
Accepted by BOURC as the first British record of one of the North American subspecies group (*alpestris/praticola/hoyti*) but could not be assigned to a single race (BOU 2020b).
Add subspecies group to *Scottish List*. Status code V.

Lesser Whitethroat *Sylvia curruca* **'Central Asian Lesser Whitethroat'** *S. c. halimodendri*

2003 **Orkney** North Ronaldsay, 1cy+, 16 October, trapped, photo, DNA analysis (*per* A. Duncan) (*Ibis* 162: 265, *British Birds* 112: 601).
Accepted by BOURC as the first British record of this subspecies (BOU 2020a).
Add subspecies to *Scottish List*. Status code V.

White-crowned Sparrow *Zonotrichia leucophrys* Central and north-eastern American subspecies *Z. l. leucophrys*

2016 **Outer Hebrides** Port Nis (Port of Ness), Isle of Lewis, 2cy+, male, 3–4 May (M Melia), presumed same 31 May (J.M. McFarlane, B.A.E. Marr *et al.*), photo (*Ibis* 162: 266, *British Birds* 110: 623, plate 346).
Previous records of this species were presumed to belong to the nominate subspecies *Z. l. leucophrys*, but this is the first confirmed British record of the subspecies accepted by BOURC (BOU 2020a).
This subspecies now shown on the *Scottish List*.

Changes to the *Scottish List* after the adoption by BOURC of version 8.2 of the *IOC World Bird List*

A revision in taxonomy of the family Locustellidae in the revised IOC version 8.2 during 2017 was overlooked at the time by BOURC (BOU 2020a). This resulted in **Pallas's Grasshopper Warbler** changing from *Locustella certhiola* to *Helopsaltes certhiola*. Furthermore, the taxonomic order of Locustellidae is revised.

Another change emanating from version 8.2 was overlooked by The *Scottish List* Subcommittee. Within Passeriformes the sequence of the families *Calcariidae* (Longspurs and Snow Bunting), *Emberizidae* (Buntings), *Passerellidae* (New World Sparrows), *Icteridae* (American Orioles and Blackbirds), *Parulidae* (New World Warblers) and *Cardinalidae* (Tanagers and American Grosbeaks) has changed, but species sequence within these families remains the same (BOU 2018).

Changes to the *Scottish List* after the adoption by BOURC of version 9.1 of the *IOC World Bird List*

Steppe Grey Shrike *Lanius pallidirostris* is restored as a subspecies of **Great Grey Shrike** *L. excubitor* (BOU 2020a). This results in a deletion of *Lanius pallidirostris* and its replacement with *L. e. pallidirostris.*

Remove one species from *Scottish List* but add one subspecies.

Changes to the *Scottish List* after the adoption by BOURC of version 9.2 of the *IOC World Bird List*

The release of version 9.2 of the *IOC World Bird List* (www.worldbirdnames.org) resulted in major changes to the sequence of the non-passerines in the *Scottish List* (BOU 2020b). The new sequence of Orders is as follows:

Galliformes	Gruiformes	Accipitriformes
Anseriformes	Podicipediformes	Strigiformes
Caprimulgiformes	Charadriiformes	Bucerotiformes
Apodiformes	Gaviiformes	Coraciiformes
Otidiformes	Procellariiformes	Piciformes
Cuculiformes	Ciconiiformes	Falconiformes
Pterocliformes	Suliformes	Psittaciformes
Columbiformes	Pelecaniformes	Passeriformes

White-winged Scoter *Melanitta deglandi* Now monotypic.

Changes to the *Scottish List* after the adoption by BOURC of version 10.1 of the *IOC World Bird List*

The release of version 10.1 of the *IOC World Bird List* resulted in the following changes to the *Scottish List* (BOU 2020b):

Hudsonian Whimbrel is split from **Whimbrel** *Numenius phaeopus* and returns to full species status:

Hudsonian Whimbrel *Numenius hudsonicus*

Add species to *Scottish List* Category A. Subspecies undetermined. Status code V.

Royal Tern *Thalasseus maximus* becomes monotypic, with the other taxon *albidorsalis* now given species status as West African Crested Tern *Thalasseus albidorsalis.* It is expected that a review of the five British records, including the one Scottish record, will soon take place.

The species referred to as Black-eared Wheatear *Oenanthe hispanica* is split:

Western Black-eared Wheatear *Oenanthe hispanica*

Add species to Scottish List Category A. Monotypic. Status code V.

Eastern Black-eared Wheatear *Oenanthe melanoleuca*

Add species to *Scottish List* Category A. Monotypic. Status code V.

Remove Black-eared Wheatear *Oenanthe hispanica* from *Scottish List.*

BBRC decisions which affect the *Scottish List* (Holt *et al.* 2019)

Canada Goose *Branta canadensis* **'Todd's Canada Goose' / 'Lesser Canada Goose'** *B. c. interior/parvipes*

The resident taxon is *B. c. canadensis*, but the 'small' migrant birds were previously treated as *B. c. interior* (presumed). However, the 'small' migrant birds are now described as *B. c. interior/parvipes* (*British Birds* 112: 560). A bird on Islay from 30 November 1989 was previously accepted as the first Scottish record of *B. c interior/parvipes*, however this has now been superseded by another Islay record:

1986 Argyll Islay, 1cy+, 24 October to 3 November (J.S. Nadin, J.G. Steele *et al.*) (*British Birds* 112: 560).

Cackling Goose *Branta hutchinsii* **'Richardson's Cackling Goose' *B. h. hutchinsii***

The species was added to the *Scottish List* in 2017 (Forrester *et al.* 2017), but at that time no British records were determined to subspecies level and therefore it was shown as 'subspecies undetermined'. Following the recent acceptance by BOURC of a 1999 record from Norfolk to the nominate subspecies (BOU 2020a), BBRC have now accepted several Scottish records as belonging to this subspecies, the first being:

2002 Argyll Islay, two 1cy+, 21 December, photo (B. Richards) (*British Birds* 112: 561).

Add subspecies to *Scottish List*. Status code V.

Scottish List category totals

As a result of the above changes the *Scottish List*, category totals are now:

Category A	525
Category B	6
Category C	9
Total	540
Category D	10

The *Scottish List* on the SOC website

Due to the frequency of changes to the *Scottish List*, it is considered inappropriate to produce regular printed versions that quickly become out of date. The *Scottish List* in its current form, does however appear on the SOC website, in a convenient Excel format, where it is updated annually and can be downloaded. It is found at: www.the-soc.org.uk/bird-recording/the-scottish-list/

Records of species and subspecies recorded in Scotland on up to 20 occasions

Comprehensive lists of all records of species and subspecies recorded in Scotland on up to 20 occasions now appear on the SOC website in tabulated form (www.the-soc.org.uk/bird-recording/scottish-birds-records-committee-sbrc/records-of-species-and-subspecies-recorded-in-scotland-on-up-to-20-occasions). The lists are updated annually.

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Plate 160. Whooper Swans, Loch an Eilein, Tiree, Argyll, October 2015. © *John Bowler*

Wetland Bird Survey counts on the Isle of Tiree, Argyll, 1998–2019

J.M. BOWLER & A.J. LEITCH

Summary

This paper summarises monthly Wetland Bird Survey (WeBS) data collected from the four main lochs on the Isle of Tiree from February 1998 to January 2019. Monthly patterns of occurrence of all key waterfowl are illustrated and discussed. Mean peak yearly counts were analysed and revealed significant declines over the period in the numbers of Shelduck, Mallard, Pochard, Red-breasted Merganser and Coot, together with significant increases in the numbers of Gadwall and Green-winged Teal. Trends in all other regularly counted waterfowl were not significant.

Introduction

The Isle of Tiree, Argyll has over 75 waterbodies, ranging in size from temporary pools to large lochs. The four largest lochs are Loch a' Phuill, Loch Bhasapol, Loch Riaghain and Loch an Eilein (Figure 1). These are all shallow, mesotrophic machair lochs underlain by sand, which warm up quickly in summer promoting rapid growth of native submerged macrophytes. These in turn provide food for vegetarian waterfowl and host high densities of aquatic invertebrates and small fish, which are food for other waterfowl. The island has long been known to be important for waterfowl, with internationally important wintering numbers of species such as Greenland White-fronted Goose *Anser albifrons flavirostris* and Greenland Barnacle Goose *Branta leucopsis*, as well as nationally important numbers of others such as Whooper Swan *Cygnus cygnus* (e.g. ap Rheinallt *et al.* 2007, Bowler & Hunter 2007). It also holds nationally important numbers of scarcer breeding waterfowl such as Shoveler *Anas clypeata* and Pintail *Anas acuta*. The first waterbird counts on Tiree were conducted by gamekeepers overseeing the shooting interests of Argyll

Estates on the island in the late 1890s to 1910s (e.g. Anderson 1898, 1913) but there were no more detailed winter counts until 1982–90 (see Newton 1989) when the island was being assessed for designated sites. Counts of waterbirds have been conducted monthly on the four main freshwater lochs on the Isle of Tiree, Argyll (Figure 1) since February 1998, as part of the Wetland Bird Survey (WeBS), a UK-wide waterbird monitoring scheme run in partnership between BTO, RSPB and JNCC in association with WWT. Counts on Tiree were conducted by AJL until February 2001 and then by JMB from June 2001 until the present, as part of their role as Tiree Officers for RSPB Scotland. The only gaps in coverage were March–May 2001, December 2004 and September 2008, when neither author was on the island. Many waterfowl also use the smaller wetlands on the island, particularly when flooded after heavy rain, as well as more sheltered sections of the coast during the winter, but the WeBS sites typically hold the bulk of the waterfowl other than geese, which feed widely across the island. Regular high-quality waterbird counts were therefore limited to the four main freshwater lochs on the island, although non-estuarine waterbird surveys (NEWS) were also conducted every five years of the entire Tiree coastline in January/February e.g. Bowler *et al.* (2008), together with monthly all-island counts of the wintering geese and swans, annual post-breeding counts of the Greylag Geese *Anser anser* in August/September, spot counts of larger aggregations of waterbirds and annual estimates of populations of breeding species.

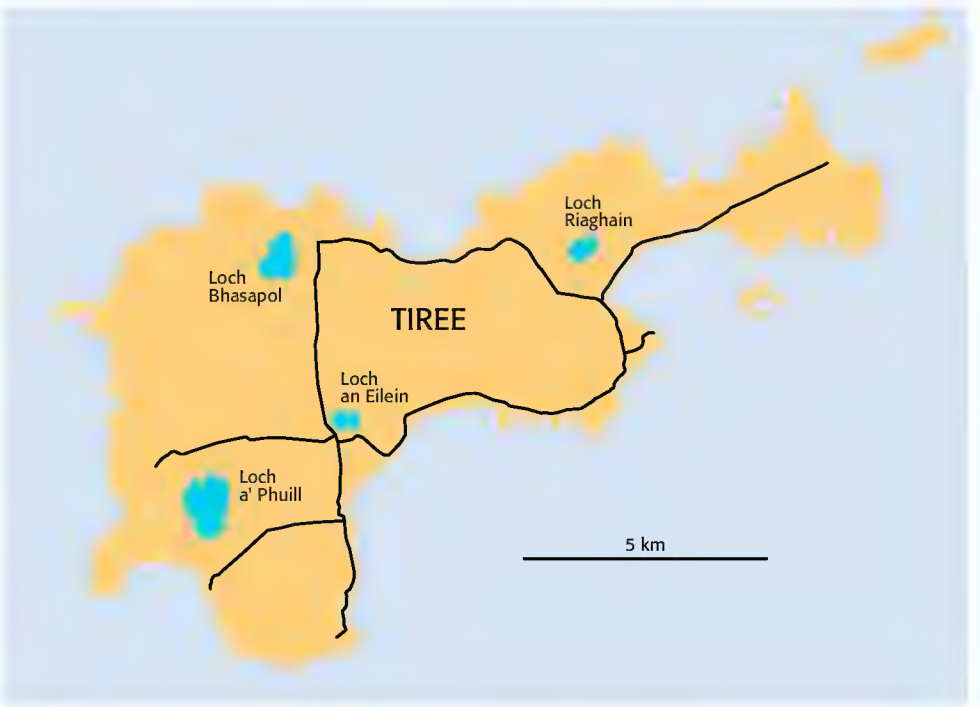


Figure 1. Map showing the location of WeBS sites on the Isle of Tiree.

Methods

All of the four main Tiree lochs were visited monthly on or around the national WeBS count day between February 1998 and January 2019. Counts were made from the same set vantage points using a combination of binoculars and a window-mounted telescope and all birds seen were recorded in a notebook, together with the duration of the watch and weather conditions. The entire surface area of each loch together with the same defined area of its marshy fringes was checked for birds each time for consistency. All gulls, terns, waders and herons were recorded as well as all waterfowl but only the waterfowl are dealt with here. Trends in numbers were investigated using Spearman's rank correlations with results achieving significance at $P < 0.05$.

Results

A total of 38 different species of waterfowl was recorded including 21 ducks, seven geese, three swans, two grebes, two divers, Coot *Fulica atra*, Moorhen *Gallinula chloropus* and Cormorant *Phalacrocorax carbo*. Numbers of the three common geese on Tiree: namely Greylag Goose, Greenland Barnacle Goose and Greenland White-fronted Goose were relatively small and erratic on the WeBS counts compared to total numbers on the island and they are therefore not dealt with further here. A further 16 species were recorded only very rarely: namely Great Northern Diver *Gavia immer*, Red-throated Diver *Gavia stellata*, Slavonian Grebe *Podiceps aurita*, Black Swan *Cygnus atratus*, Snow Goose *Anser caerulescens*, Pink-footed Goose *Anser brachyrhynchus*, Canada Goose *Branta canadensis*, Pale-bellied Brent *Branta bernicla hrota*, American Wigeon *Anas americana*, Garganey *Anas querquedula*, Blue-winged Teal *Anas discors*, Ferruginous Duck *Aythya*

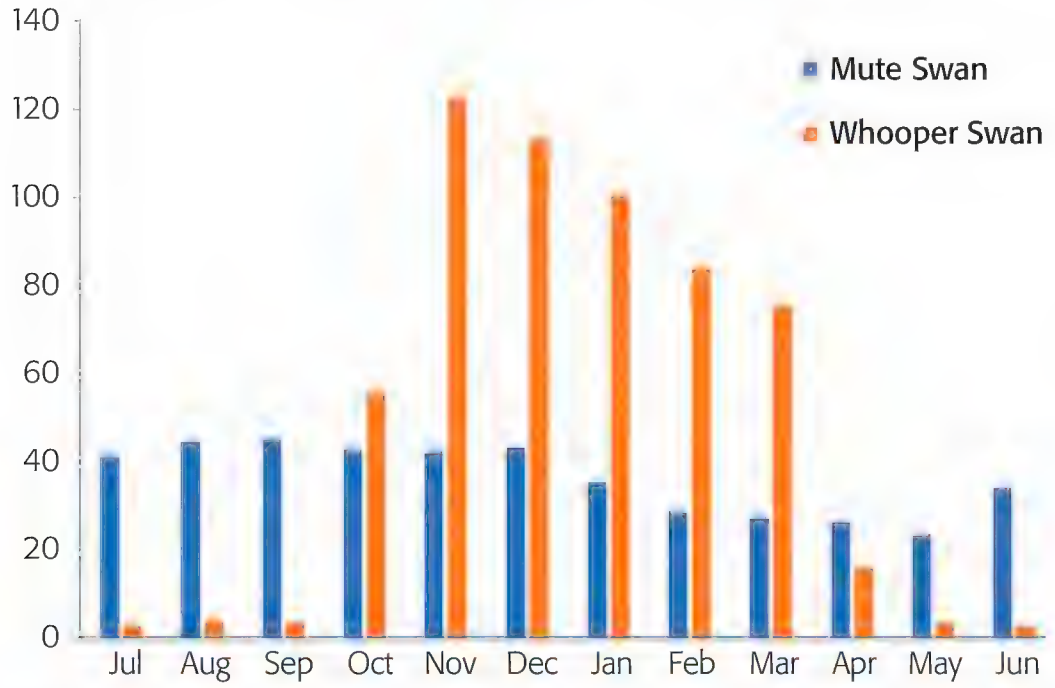
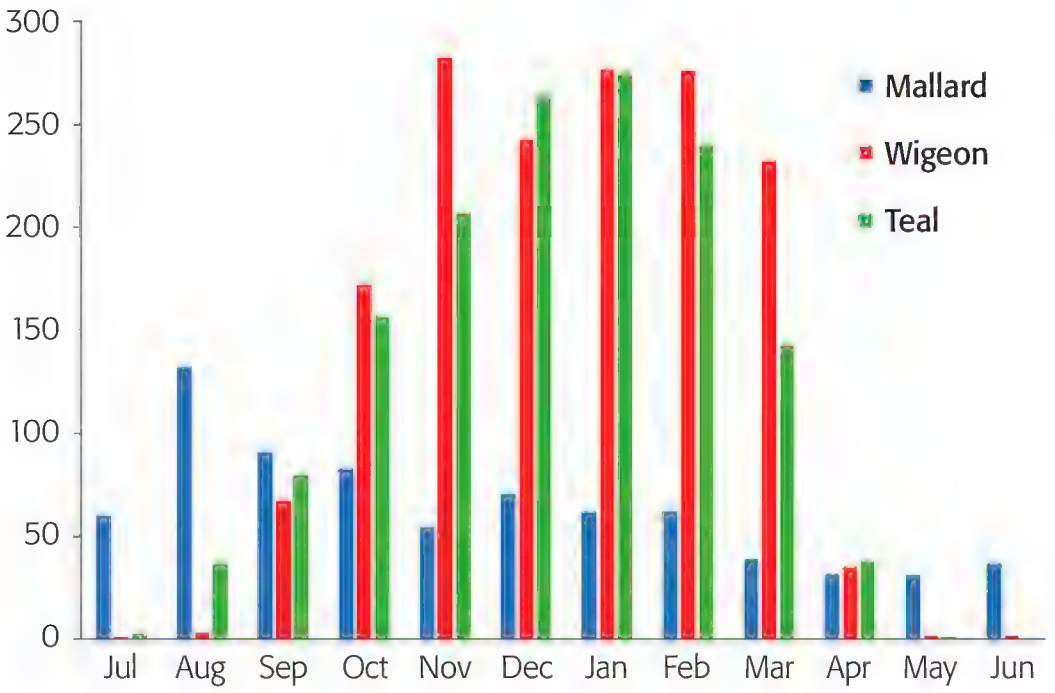
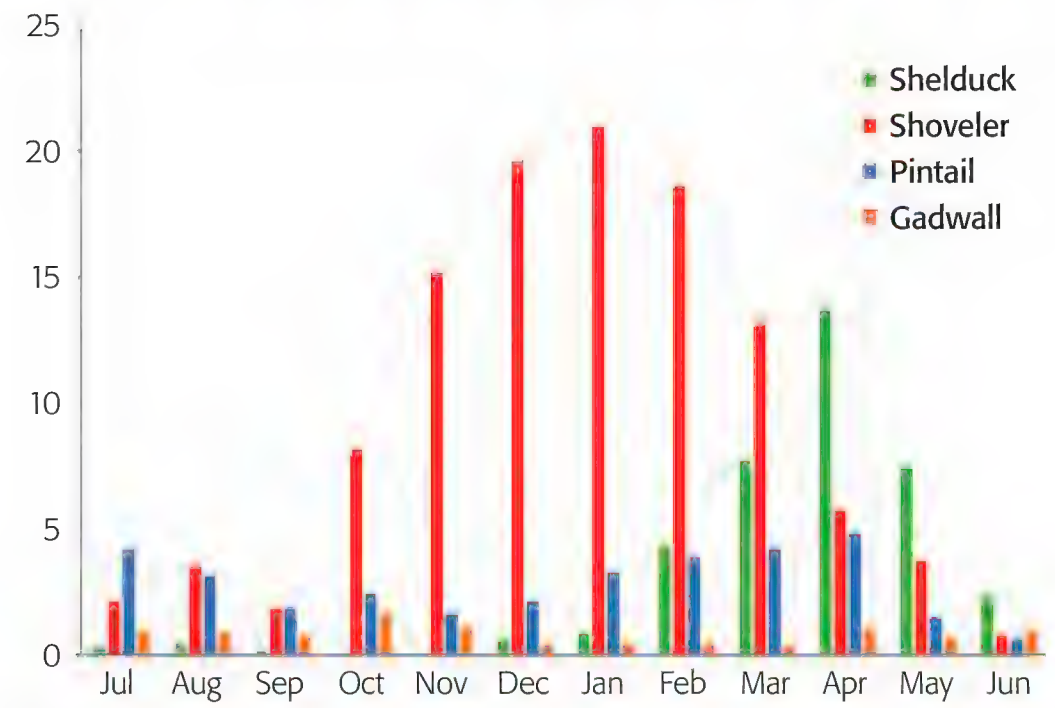


Figure 2. Monthly mean WeBS counts of swans on Tiree 1998–2019.





Figures 3 and 4. Monthly mean WeBS counts of dabbling ducks on Tiree 1998–2019.

nyroca, Lesser Scaup *Aythya affinis*, Ring-necked Duck *Aythya collaris*, Eider *Somateria mollissima* and Long-tailed Duck *Clangula hyemalis* and again are not dealt with further. Patterns of occurrence of the remaining 19 species are described below.

Timing

Figures 2–7 show mean monthly WeBS totals for waterfowl on Tiree in 1998 to 2019.

Swans

Mute Swans *Cygnus olor* were present all year round on Tiree with a mean of around 40 birds in June to December dropping to 23 birds in May (Figure 2). Whooper Swans were also present all year round (Figure 2) but with a mean of only two to four birds in May to September. Numbers increased again in October reaching a peak monthly mean of 122 in November. Winter numbers then declined monthly to a mean of 75 in March.

Dabbling ducks

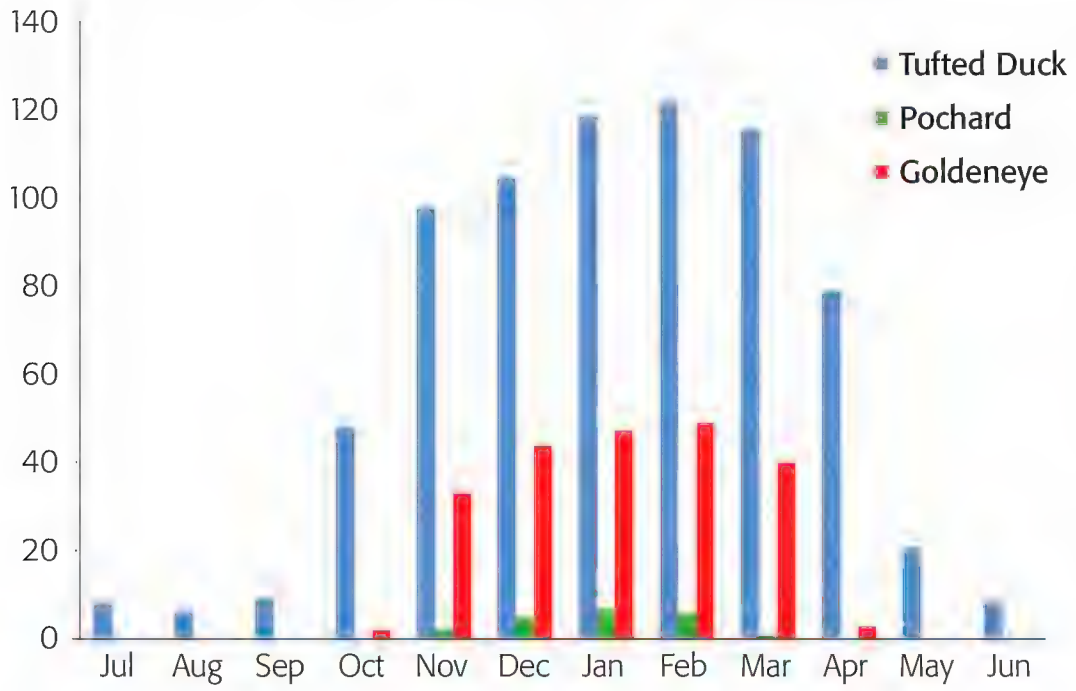
Dabbling ducks showed a range of different patterns of occurrence (Figures 3 and 4). Wigeon *Anas penelope* and Teal *Anas crecca* were the most numerous species (Figure 3), each with peak monthly means in November to March of 200–290 birds and much lower means in summer with Wigeon dropping to 1–4 birds in May to August and Teal dropping to 1–3 birds in May to July. Mallard *Anas platyrhynchos* showed mean monthly counts of over 30 birds all year

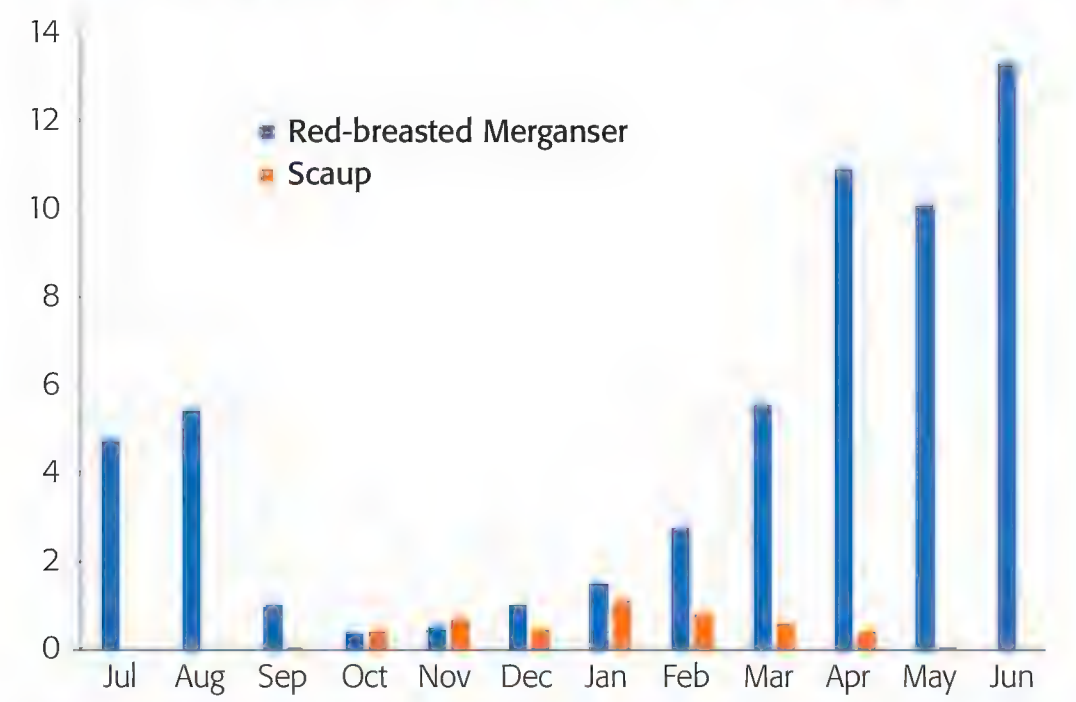
round, peaking at over 130 birds in August and then slowly declining through the winter and spring. Of the less numerous dabbling ducks (Figure 4), only Shoveler showed a distinct winter peak with monthly means of 15–22 birds in November to February dropping to 1–4 birds in May to September. Shelduck *Tadorna tadorna* showed a distinct spring peak increasing from February to reach a peak mean of 14 birds in April and with monthly means of less than one bird in July to January (Figure 4). Pintail and Gadwall *Anas strepera* were both present all year-round in small numbers with no obvious monthly trends (Figure 4). The highest Pintail means of 3–4 birds were in January to April and again in July to August, whilst peak Gadwall means of more than one bird were in October–November and April.

Diving ducks

All three regularly occurring diving ducks showed similar patterns in numbers through the year (Figure 5). The most numerous species was Tufted Duck *Aythya fuligula* with mean counts of 95–120 birds in November to March with the peak of 122 birds in February. Goldeneye *Bucephala clangula* had mean counts of over 40 birds in December to March peaking at 49 birds in February, whilst Pochard *Aythya ferina* numbers peaked at seven birds in January. Unlike Goldeneye and Pochard, which were both largely absent between May and September, Tufted Ducks were present throughout the summer with monthly means of 6–10 birds in June to September. Scaup *Aythya marila* showed a very similar pattern of occurrence to Pochard (Figure 6) being present only from September to May and peaking at a mean of just over one bird in January. Red-breasted Merganser *Mergus serrator* showed a very different pattern with lowest numbers in winter and highest numbers in summer peaking at a monthly mean of 13 birds in June (Figure 6).

Plate 161. Greenland Barnacle Goose, Vaul, Tiree, Argyll, January 2019. This race winters in internationally important numbers on Tiree, although WeBS counts only record a small proportion of these. © *John Bowler*





Figures 5 and 6. Monthly mean WeBS counts of diving ducks on Tiree 1998–2019.

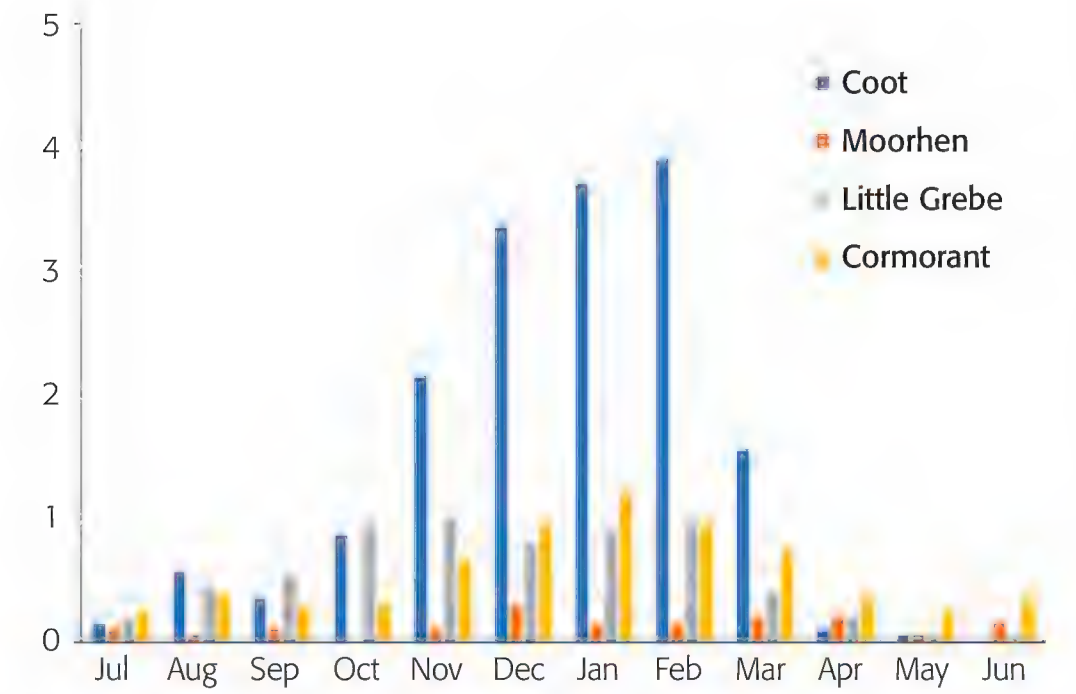


Figure 7. Monthly mean WeBS counts of Coot, Moorhen, Little Grebe and Cormorant on Tiree 1998–2019.

Other waterfowl

Numbers of Coot were highest in winter with mean counts of 1.5 to 4 birds in November to March, peaking in February and dropping away rapidly in April with no birds seen in June (Figure 7). Moorhen is not well covered by WeBS as their furtive nature makes them easy to miss. They were recorded in very low numbers in all months. Similarly, both Little Grebes *Tachybaptus ruficollis* and Cormorants were recorded in very small numbers in all months with slightly higher numbers of both in the winter months than in the summer (Figure 7).

Trends

Figures 8–10 show the trends of waterbirds whose maximum annual WeBS counts on Tiree underwent significant changes (Spearman's rank correlations, $r_s > 0.450$, $P < 0.05$, $n = 21$) between 1998 and 2019. Five species showed significant declines over the period and two species showed significant increases. There were no significant trends in the maximum annual WeBS counts of the remaining 12 species of waterfowl.

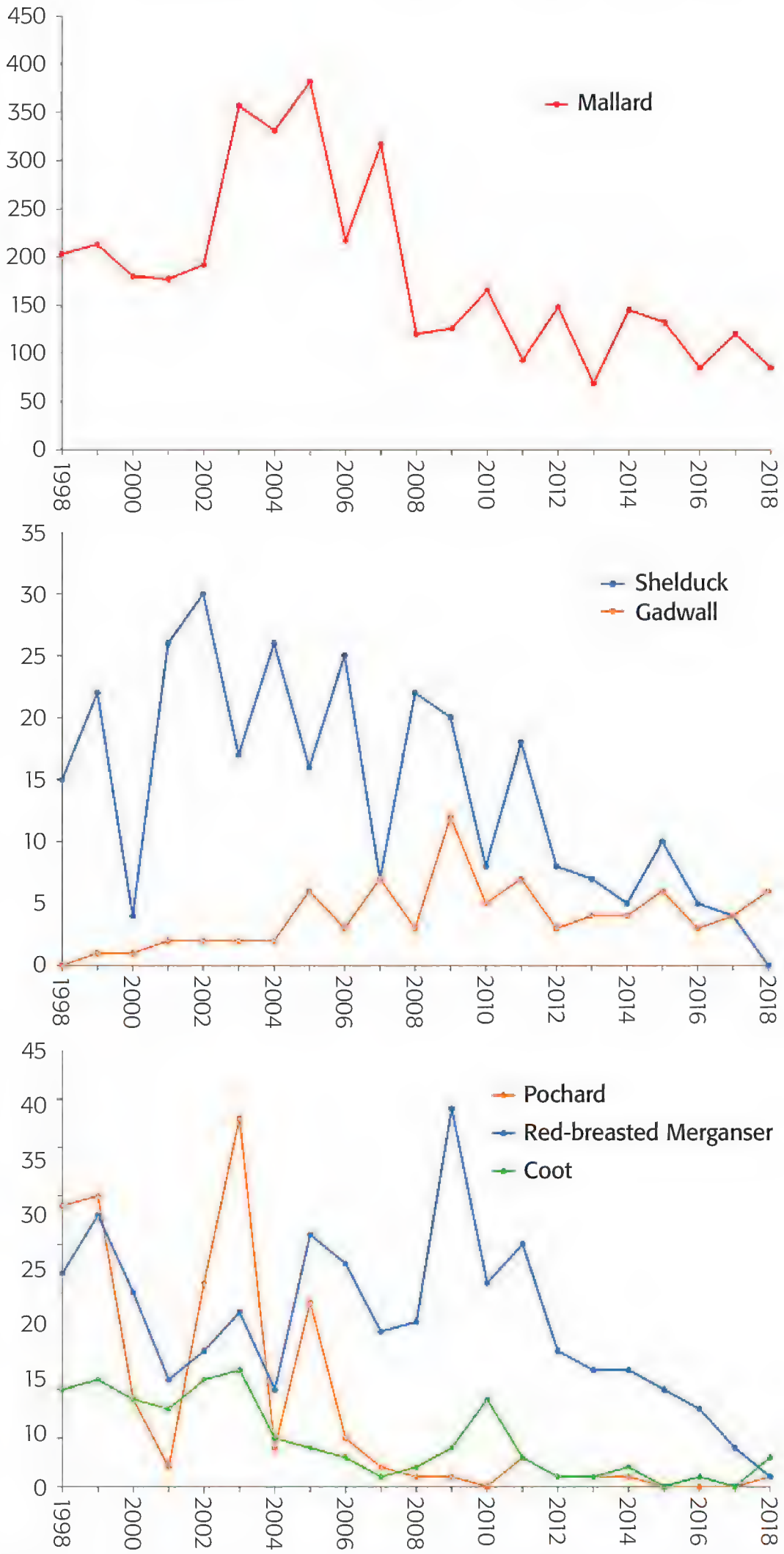
Negative trends in maximum annual WeBS counts were shown by Mallard, Shelduck, Pochard, Red-breasted Merganser and Coot. Peak counts of Mallard declined by more than 50% from 200–400 birds in 1998–2007 to 70–150 birds in 2011–2018 (Figure 8). Peak counts of Shelduck declined by 75% from 15–30 birds in 1998–2009 to fewer

than 5 birds in 2017–18 (Figure 9). Peak counts of Pochard declined by around 90% from regular counts of 20–40 birds in 1998–2005 to 0–5 birds since 2006 (Figure 10). Similarly, peak counts of Coot declined by almost 90% from 10–12 birds in 1998–2003 to 0–3 birds in 2011–18, whilst peak counts of Red-breasted Merganser declined from 10–40 birds in 1998–2015 to 1–8 birds in 2016–18 (Figure 10).

Maximum annual counts of Gadwall numbers showed a generally positive trend between 1998 and 2019, albeit with a peak count in 2009 (Figure 9), although overall numbers remain small. In addition, no Green-winged Teal *Anas carolinensis* were counted before 2009 but the species was then recorded in seven subsequent years creating a positive trend.

Discussion

Mute Swans are resident on Tiree with typically 10–12 nesting pairs and the higher WeBS counts from June to December result from the production of locally-reared young (fledged young are included in WeBS counts from August) as well as the return of pairs to WeBS sites that bred on smaller wetlands elsewhere on the island. In the 1980s there were regular autumn of influxes of Mute Swans from the Outer Hebrides as proven by records of neck-collared birds (Newton 1989) and groups of new cygnets do still appear occasionally in winter from unknown sites. A darvic-



Figures 8, 9 and 10. Species showing significant trends in their peak yearly WeBS counts on Tiree (Spearman's rank correlations, n = 21, Mallard r_S = -0.587, $P < 0.01$, Shelduck $r_S = 0.633$, $P < 0.01$, Gadwall $r_S = 0.499$, $P < 0.05$, Pochard r_S = -0.691, $P < 0.01$, Red-breasted Merganser $r_S = 0.494$, $P < 0.05$ and Coot $r_S = 0.795$, $P < 0.01$).

ringed adult at Loch a' Phuill on 10 September 2001 had been ringed in Oban Harbour in 2000. The formerly large supplementary-fed herd that wintered in Oban Bay in the 2000s no longer exists and Tiree's resident population is now the largest concentration of Mute Swans in Argyll.

Whooper Swans winter in nationally important numbers on Tiree feeding mostly on natural pondweeds in the lochs with Loch a' Phuill being the key site. Numbers are highest on autumn passage in November when internationally important numbers can be present including a record count of 502 on 5 October 2015, with 431 at Loch a' Phuill. WeBS counts of Whooper Swans decline slowly through the winter and this is mirrored by similar declines in all-island monthly counts, indicating that the birds are leaving the island. There is often a marked return passage in March including a count of 263 birds on 24 March 1998, but movement is swift and is not usually detected by WeBS counts. Up to 12 birds summer annually on Tiree including one distinctive individual with a broken wing that has been resident at Loch a' Phuill since at least 2001. Most are first-winter birds and despite occasional nest-building activity there were no concerted breeding attempts during the period.

Wigeon and Teal were the most numerous wintering dabbling ducks on the WeBS counts, whilst NEWS counts revealed that a similar number of both species also occur along the more sheltered shores, effectively doubling the wintering totals for the island (Bowler *et al.* 2008). Some 20–30 pairs of Teal also breed annually on Tiree but mostly on smaller wetlands, so these numbers are not reflected in the very small WeBS counts from May to July. Very small numbers of Wigeon are noted in May–June but successful breeding was only proven once during the period, in 2008. Mallard is resident on Tiree and the peak WeBS counts in August–September presumably relate to post-breeding aggregations of adults and fledged young from the island but perhaps also arriving from elsewhere. Maximum annual WeBS counts on Tiree declined significantly over the period reflecting a 39% decline in numbers across the UK in 1991 to 2016 (Frost *et al.* 2019) and highlighted by the 37% long-term decline (1999/20–2017/18) shown by WeBS alerts on the Tiree Wetlands and Coast SPA (Woodward *et al.* 2019).

Plate 162. Female Pintail, Tiree, Argyll, July 2019. © *John Bowler*

All of the less numerous dabbling ducks were resident more or less year-round on Tiree, which reflects the fact that they all breed on the island. Shoveler was the only one of the less numerous dabbling ducks that showed a distinct winter peak in numbers with additional birds wintering on the island coming from elsewhere including possibly Iceland (Forester *et al.* 2007). A stable number of 10–15 pairs of Shoveler nested annually on Tiree during the period (Bowler and Hunter 2007). Annual maximum counts of Gadwall increased significantly over the period reflecting increased breeding activity from 2004 onwards with up to 4 pairs nesting annually. Pintail also showed an increase over the period although this did not quite reach significance ($r_s = 0.405$, $P > 0.05$). The highest count was of 31 birds on 15 July 2014 which reflected a particularly successful breeding season. An apparently stable population of 4–7 pairs nested annually during the period, making Tiree the second most important breeding site for this species in Scotland after Orkney (Forester *et al.* 2007). Shelduck numbers peaked in April and the species was largely absent in July–November when most British birds are away moulting in the Helgoland Bight with smaller numbers at Bridgewater Bay, Somerset. There was a significant decline in maximum Shelduck counts over the period, which would indicate either a decline in the local breeding population or a shift in distribution on the island. NEWS counts of the entire Tiree coastline revealed a decline from 138 in February 2006 to 55 in February 2018 (Bowler *et al.* 2018) and sightings of broods have also declined on the island in recent years. The decline in numbers on Tiree mirrors a national decline of 32% between 1991 and 2016 (Frost *et al.* 2019).

Most of the freshwater diving ducks on Tiree were most numerous in winter, with only Tufted Duck and Red-breasted Merganser remaining to breed on the island. Some 6–15 pairs of Tufted Duck and 6–10 pairs of Red-breasted Merganser nested annually during the period. Red-breasted Merganser, however, was more numerous on WeBS counts in the summer months, possibly reflecting a switch to marine feeding sites in winter, since NEWS counts found higher numbers than the summer WeBS counts (Bowler *et al.* 2008, 2018). Maximum annual WeBS counts of both Pochard and Red-breasted Merganser declined significantly during the period to the extent that Pochard no longer winters regularly on the island, mirroring UK declines of 70% for Pochard and 36% for Red-breasted Merganser between 1991 and 2016 (Frost *et al.* 2019).

Coot have not been confirmed breeding on Tiree since the 1950s but remained a regular winter visitor into the 2000s (Bowler and Hunter 2007). Maximum annual WeBS counts declined significantly over the period to the extent that in most recent winters, only one or two birds appear. This does not match the UK picture, where Coot numbers were broadly stable between 1991 and 2016 (Frost *et al.* 2019) but may reflect instead a decline in the breeding population on the Outer Hebrides (Rabbits 2019), which are likely to be the source of the Tiree wintering birds. Moorhen are resident on Tiree with some 2–4 pairs breeding annually, although they are very elusive and often favour smaller wetlands not covered by WeBS. Little Grebes were recorded in all months but have not bred on Tiree since 2000 (Bowler & Hunter 2007) and it seems likely that some of the wintering birds at least come from the neighbouring island of Coll where up to two pairs have bred annually since at least 2014 (Argyll Bird Reports).

Tiree continues to support nationally important numbers of wintering and breeding waterfowl, although it is worrying that despite little apparent change to the wetland habitats on the island over the period, numbers of several species have declined significantly in line with wider UK declines. Continued WeBS counts on Tiree are vital to shed further light on the patterns of occurrence and abundance of waterfowl on the island.

Acknowledgements

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Plate 163. Greylag Geese plus Otter, Loch Riaghain, Tiree, Argyll, May 2020. © *John Bowler*

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Numbers and distribution of autumn-staging Barnacle Geese on Islay and their exposure to the Islay goose cull

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Introduction

The island of Islay is of international importance for its wintering goose populations, supporting about 60% of the flyway populations of Greenland Barnacle Geese *Branta leucopsis* and about 25% of Greenland White-fronted Geese *Anser albifrons flavirostris* (Percival & Bignal 2018). As well as its wintering population, there was evidence from the 1980s that Islay was visited by numbers of transient Barnacle Geese that moved on to other wintering sites (Easterbee *et al.* 1987). Observations of individually ringed birds have shown some interchange between Islay and other Scottish sites, such as Tiree (Newton & Percival 1989). Movements to and from wintering areas in Ireland have also been recorded (Cabot & West 1983, Mitchell *et al.* 2020).

The concentration of geese on the island has brought them into conflict with local farmers, as they reduce grassland yields (Patton & Frame 1981, Percival & Houston 1992, Mason *et al.* 2017). This conflict has been managed over the last five decades via a range of approaches including compensatory payments to farmers to offset damage caused and to provide reseeded grass fields for the geese, measures to scare geese from fields where they have greatest economic impact and licences to farmers for lethal shooting (McKenzie & Shaw 2017).

A new goose management scheme was introduced on Islay in 2015, the Islay Goose Management Strategy (IGMS) which, in an attempt to reduce costs to the taxpayer, introduced active culling of Barnacle Geese. The scheme, managed by Scottish Natural Heritage (SNH) aims to reduce the population from 42,000 to a target of 25,000–30,000 (McKenzie 2014, McKenzie & Shaw 2017), and about 9,500 have been culled since the new scheme started. Concerns over the effectiveness and scientific basis of the new scheme have been raised (e.g. Percival & Bignal 2018), including its negative effects on existing conservation management, animal welfare, and the use of lead shot.

One specific concern relates to the potential impact of the scheme on Barnacle Geese that utilise Islay during autumn staging and redistribute through the winter to other sites in western Scotland and Ireland. Many of these sites have been designated as Special Protection Areas (SPAs) to protect the geese that use them. The IGMS acknowledges this issue, and incorporates specific measures to minimise the impacts of the strategy on geese that may be migrating on to other locations (specifically other SPAs outside Islay). This is to ensure that there are no adverse effects on the integrity of these other SPAs (McKenzie 2014 and *in litt.*). These mitigation measures stipulate a much-reduced level of lethal shooting through October and November. The IGMS assumes that the transient geese only use the Gruinart area of Islay, with these measures only applying to that area, and that they have left Islay by December, though this has been deduced from count data rather than being based on an understanding of individual behaviour.

There was a substantial increase in the ringing effort of Greenland Barnacle Geese across their range in 2016–19, with catches on Tiree, Orkney, Oronsay, north Sutherland in Scotland and Donegal,

Sligo and on the Inishkea Islands in Ireland, as well as on Islay. Larger numbers of geese ringed outside Islay have enabled better estimates to be made of the numbers of geese staging on Islay during autumn 2018 and 2019 which winter at these other sites, and a more detailed examination of the areas on Islay that they use. The purpose of this paper is to provide new information on:

- The number of Greenland Barnacle Geese from wintering areas outside Islay that stage on Islay in the autumn.
- The distribution of these staging birds across Islay, in terms of whether they are restricted to the Gruinart area or are more widely distributed.
- The number of staging geese from SPAs outside Islay that are exposed to the SNH cull, and hence the likely effectiveness of the current IGMS mitigation (reduced shooting at Gruinart).

Methods

Individually marked geese in the Greenland Barnacle Goose population

Ongoing long-term studies of Greenland Barnacle Geese on Islay (Percival 1991, Percival *et al.* 1997, Pettifor *et al.* 1999, Trinder *et al.* 2005) and on the Inishkea Islands (Cabot & West 1983) have involved the capture, colour-ringing and re-sightings of marked birds at each site. In 2016/17 and 2017/18, SNH provided funding to the Wildfowl & Wetlands Trust (WWT) to extend the marked populations through ringing at other wintering sites, including Tiree (52 caught in March 2017), Oronsay (15 caught in February 2018), Hoy, Orkney (49 caught in March 2018) and north Sutherland (154 caught in March 2017) (Mitchell *et al.* 2020). Additionally, projects were started at Malin in County Donegal by one of the authors (KC) (involving birds from the Trawbreaga Bay SPA and Inishtrahull SPA), where 286 birds were caught during January–April 2018 and a further 74 in March–April 2019, and at Ballygilgan in County Sligo (involving birds from the Ballintemple and Ballygilgan SPA), where 74 were caught in March 2019. All were marked with an individually coded three-character plastic leg ring, readable in the field to about 400 m (Ogilvie 1972). The locations of these catch sites are shown in Figure 1.

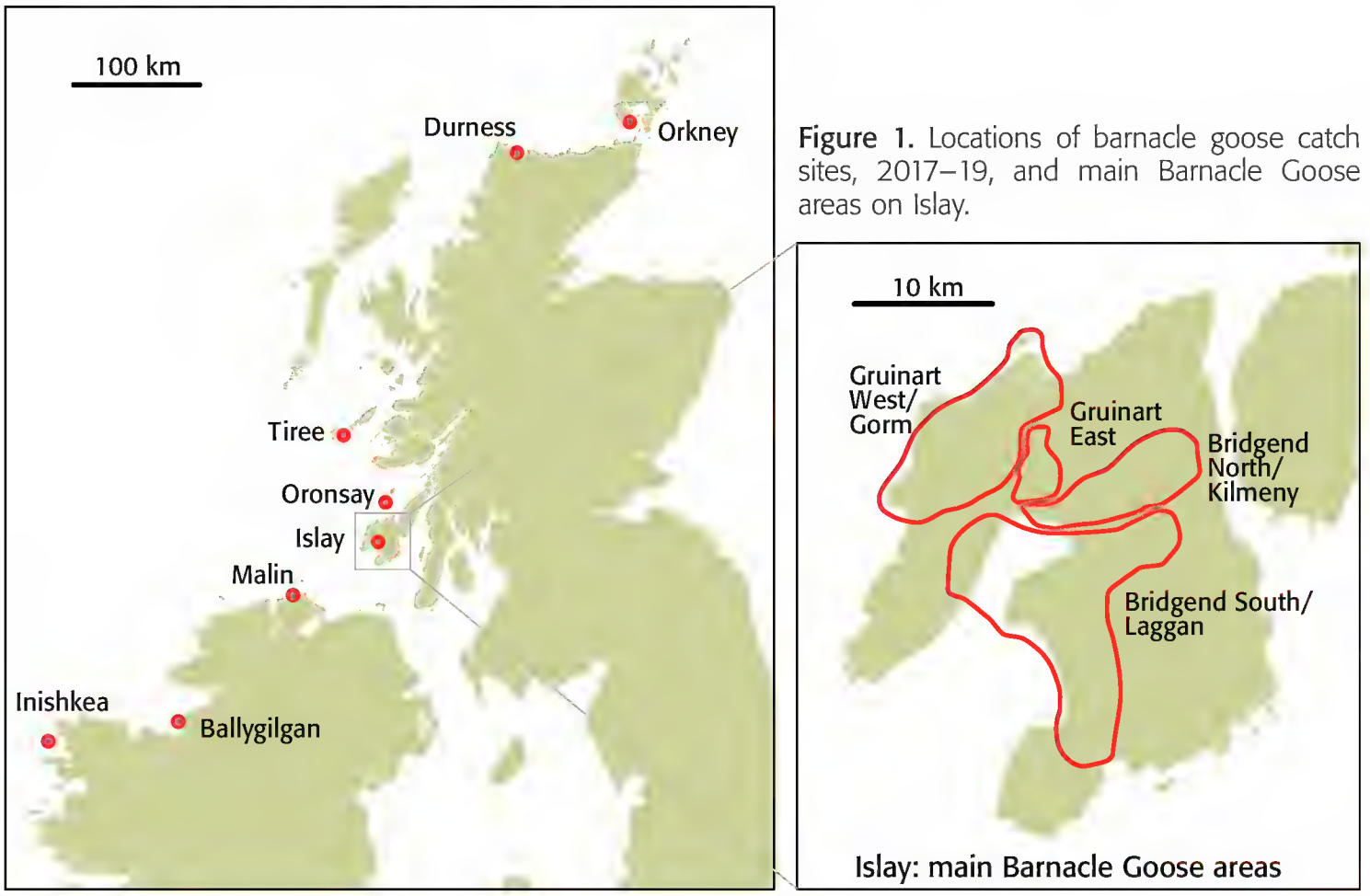

Figure 1. Locations of barnacle goose catch sites, 2017–19, and main Barnacle Goose areas on Islay.

Ring re-sightings, Islay autumn 2018 and 2019

This paper uses ring re-sighting data collected by SP during two-week sampling periods on Islay between 14–26 October 2018 and 20 October to 1 November 2019, covering the period of the main arrival of Barnacle Geese onto the island. The areas used regularly by Barnacle Geese were searched daily, and repeat visits were made each day to more frequently-used sites. In total, 1,157 sightings were made of 453 individuals in 2018 and 1,423 sightings of 601 individuals in 2019. Sampling was also carried out to determine the proportion of ringed birds in flocks across the island by counting both the number of birds in each flock encountered and the number of birds checked for rings (with a total sample of 65,345 birds checked in 2018 and 72,123 in 2019, involving multiple checks of individuals).

Results

The proportion of Barnacle Geese ringed and estimated numbers of rings present across Islay, autumn 2018 and 2019

The ring-reading effort on Islay during autumn 2018 and 2019 is summarised in Table 1 (2018) and Table 2 (2019). This gives the number of Barnacle Geese checked for rings, the percentage ringed from that sample (in each of the main areas of Islay being used during the survey work), and an estimate of the total number of ringed individuals present (the percentage ringed multiplied by the population estimate from each area from counts made in the field). The areas have been defined after Percival (1991) and further unpublished data, and are shown in Figure 1. Checking rates were high across all of the island, with on average each bird being checked 1.8 times in 2018 (65,345 / 36,500) and 1.9 times in 2019 (72,123 / 37,260). The percentage ringed varied between different parts of the island, reflecting the locations of local catch sites and the birds' high site fidelity (Percival 1991).

Table 1. Percentage of Barnacle Geese ringed within each area of Islay (see Figure 1) in autumn 2018 and the estimated total number of ringed individuals in each area.

Islay area	Sample checked for rings [A]	% ringed [B]	Estimated population [C]	Estimated number of ringed individuals [D]
Gruinart East	8,140	1.04%	4,500	47
Gruinart West/Gorm	50,820	1.52%	24,000	365
Bridgend North/Kilmeny	1,340	2.31%	3,500	81
Bridgend South/Laggan	5,045	1.21%	4,500	54
Total	65,345		36,500	547

Notes: [A] The number of Barnacle Geese checked for rings; [B] Number ringed in sample/ sample checked; [C] From field counts made by SP and RSPB; [D] = % ringed x estimated population.

Table 2. Percentage of Barnacle Geese ringed within each area of Islay (see Figure 1) in autumn 2019 and the estimated total number of ringed individuals in each area.

Islay area	Sample checked for rings [A]	% ringed [B]	Estimated population [C]	Estimated number of ringed individuals [D]
Gruinart East	17,776	1.38%	5,000	69
Gruinart West/Gorm	36,417	2.21%	20,000	443
Bridgend North/Kilmeny	7,460	2.27%	6,000	136
Bridgend South/Laggan	10,470	0.90%	4,260	38
Total	72,123		35,260	686

Numbers of individual Barnacle Geese seen on Islay from each of the main ringing sites outside Islay

The number of ringed individuals from each main ringing site read on Islay in autumn 2018 and 2019 and the overall total is shown in Tables 3 and 4. The total of 453 individually-marked geese encountered in 2018 gives an overall re-sighting rate of 83% (453/547), i.e. an estimated 83% of the rings present on Islay during the survey period were read. In autumn 2019 601 individuals

were seen of an estimated 686 present on Islay, an overall re-sighting rate of 88%. These values were incorporated into the calculations to take into account the small proportion of rings (17% in autumn 2018 and 12% in autumn 2019) that were present on the island but not observed. Chi-squared tests showed that the numbers of ringed individuals seen from each catch site was significantly different from an even distribution in both autumns (χ^2 = 30.7, 5 df, p<0.001 in 2018, and χ^2 = 61.5, 6 df, p<0.001 in 2019).

Tables 3 and 4 also give the numbers of rings from each catch site predicted to be alive in autumn 2018 and in autumn 2019, estimated from survival rates of marked birds (based on an 86% annual survival rate, Pettifor *et al.* 1999, Trinder *et al.* 2005 and S. Percival, unpublished data).

Table 3. Number of ringed Barnacle Geese originating from outside Islay seen there in autumn 2018, and estimates of total goose numbers present on Islay from each catch site.

Catch site	Number of ringed individuals seen Islay Oct 2018	Number of ringed individuals estimated alive Oct 2018	% ringed individuals alive seen on Islay [A]	Population spring 2018 at catch site [B]	Estimated total number of geese from catch site on Islay, Oct 2018 [C]	% catch site population on Islay Oct 2018 [D]
Orkney	8	44	18%	1,460	316	22%
Durness, Sutherland	13	121	11%	573	74	13%
Tiree	16	40	40%	5,126	2,441	48%
Oronsay	2	14	15%	2,250	401	18%
Malin/Trawbreaga Bay	106	262	40%	2,455	1,197	49%
Inishkea	13	58	22%	2,330	629	27%
Total	158	539	29%	14,194	5,058	36%

Notes: [A] Number of ringed individuals seen/number of ringed individuals estimated to be alive; [B] from WWT aerial survey in Scotland (Mitchell and Hall 2018) and counts in Ireland from Doyle *et al.* (2019); [C] = % ringed individuals alive seen on Islay x population in spring 2018 at catch site / autumn resighting rate on Islay; [D] = estimated number of catch site geese on Islay in autumn 2018 / population at that site in spring 2018.

Table 4. Number of ringed Barnacle Geese originating from outside Islay seen there in autumn 2019, and estimates of total goose numbers present on Islay from each catch site.

Catch site	Number of ringed individuals seen Islay Oct 2019	Number of ringed individuals estimated alive Oct 2019	% ringed individuals alive seen on Islay [A]	Population spring 2018 at catch site [B]	Estimated total number of geese from catch site on Islay, Oct 2019 [C]	% catch site population on Islay Oct 2019 [D]
Orkney	10	38	26%	1,460	435	30%
Durness, Sutherland	22	104	21%	573	138	24%
Tiree	13	35	37%	5,126	2,180	43%
Oronsay	5	12	43%	2,250	1,101	49%
Malin/Trawbreaga Bay	70	293	24%	2,455	667	27%
Inishkea	12	85	14%	2,330	374	16%
Sligo	12	68	18%	4,410	889	20%
Total	144	634	23%	18,604	5,784	31%

Notes: [A] Number of ringed individuals seen/number of ringed individuals estimated to be alive; [B] from WWT aerial survey in Scotland (Mitchell and Hall 2018) and counts in Ireland from Doyle *et al.* (2019); [C] = % ringed individuals alive seen on Islay x population in spring 2018 at catch site/ autumn resighting rate on Islay; [D] = estimated number of catch site geese on Islay in autumn 2019 / population at that site in spring 2018.

The results presented in Tables 5 and 6 show that a high proportion of the geese caught outside Islay during the winters of 2016/17, 2017/18 and 2018/19 were observed on Islay in autumn 2018 and 2019, particularly from the Tiree (48% in 2018, 43% in 2019) and Malin (49% in 2018, 27% in 2019) catches. When translated into total population estimates, this comprised an estimated 5,060 birds from these six sites alone present on Islay in autumn 2018, and 4,890 in autumn 2019,

plus another 890 from Sligo in autumn 2019. It is clear that high proportions of several SPA populations were using Islay in the autumn, in both 2018 and 2019.

Estimated numbers from non-Islay SPA populations exposed to the Islay cull

If the autumn migrant geese were only present on Islay during October and November and stayed within the Gruinart area, then the Islay Goose Management Strategy mitigation could be effective in avoiding exposure of these birds to the cull. However, the distribution of these ringed birds on Islay has shown this not to be the case. Though most of these birds (73% in 2018 and 61% in 2019) ringed outside Islay were seen in the Gruinart area, there was also a large number (33% of the ring sightings over the two autumns) using other parts of the island where the reduced level of October/ November shooting is not enforced by the scheme.

Table 5. Distribution of Barnacle Geese from SPAs outwith Islay seen on Islay in autumn 2018 and estimates of the numbers and percentages exposed to the Islay cull.

Catch site	SPA	Estimated total number of geese from catch site on Islay, Oct 2018 (from Table 3)	% ringed individuals seen on Islay outwith Gruinart	Estimated catch site population on Islay outwith Gruinart [A]	% of SPA population exposed to cull [B]
Orkney	Switha	316	21%	67	5%
Durness, Sutherland	North Sutherland Coastal Islands	74	22%	16	3%
Tiree	Sleibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast)	2,441	29%	709	14%
Malin (Donegal, Ireland)	Trawbreaga Bay, Inishtrahull	1,197	29%	352	14%
Inishkea (Mayo, Ireland)	Inishkea Islands	629	14%	90	4%

Notes: [A] % ringed individuals seen outwith Gruinart x estimated total from catch site on Islay; [B] Estimated catch site population on Islay outwith Gruinart/Total catch site population (from Table 2, B).

Table 6. Distribution of Barnacle Geese from SPAs outwith Islay seen on Islay in autumn 2019 and estimates of the numbers and percentages exposed to the Islay cull.

Catch site	SPA	Estimated total number of geese from catch site on Islay, Oct 2019 (from Table 4)	% ringed individuals seen on Islay outwith Gruinart	Estimated catch site population on Islay outwith Gruinart [A]	% of SPA population exposed to cull [B]
Orkney	Switha	435	76%	333	23%
Durness, Sutherland	North Sutherland Coastal Islands	138	20%	27	5%
Tiree	Sleibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast)	2,180	12%	256	5%
Malin (Donegal, Ireland)	Trawbreaga Bay, Inishtrahull	667	42%	281	11%
Inishkea (Mayo, Ireland)	Inishkea Islands	374	50%	187	8%
Ballygilgan, Sligo	Ballintemple and Ballygilgan SPA	889	56%	494	11%

Notes: [A] % ringed individuals seen outwith Gruinart x estimated total from catch site on Islay; [B] Estimated catch site population on Islay outwith Gruinart/Total catch site population (from Table 2, B).

Conclusions and implications for the Islay Goose Management Scheme

These results illustrate that an urgent review of the Islay Goose Management Strategy is required in terms of its effects on non-Islay SPAs. Its mitigation to avoid adverse effects on the integrity of other SPAs outside Islay is not effective and large numbers of birds from other SPAs are being exposed to the effects of culling (and hence risk adverse effects on the integrity of those SPA populations).

The increase in the numbers of marked birds from areas outwith Islay and Inishkea has added further evidence to what had been suspected from count data, that a considerable number of birds from the southern part of the flyway (in western Ireland) and other parts of the Scottish wintering range use Islay during autumn staging. In 2018 and 2019, we estimate that a large proportion of SPAs at which ringing was carried out are being affected by the IGMS.

Higher proportions of SPA populations and larger absolute numbers were from SPAs geographically closer to Islay (specifically the Trawbreaga Bay and Inishtrahull SPAs in Donegal and the Tiree Wetlands and Coast SPA). Similar proportions of other SPAs at similar distances are likely to be affected, including: Horn Head to Fanad Head SPA; Inishbofin, Inishdooey and Inishbeg SPA; Coll SPA; and the Treshnish Isles SPA. However, no ringing of geese has taken place at these sites. Further ringing and re-sightings programmes for other Barnacle Goose populations utilising the SPA network is urgently needed to better understand the population-level impact of the Islay Goose Management Strategy. These SPAs form part of what should be an ecologically coherent network of sites (Catchpole 2012). It would appear from the results presented here that the IGMS could be adversely affecting the coherence of that network of sites, in both Ireland and Scotland, as well as the potentially having an adverse effect on the integrity of numerous SPAs designated to protect their wintering Barnacle Goose populations.

A further unknown is how long these birds stay on Islay. The mitigation measures for the Gruinart area under the Islay Goose Management Strategy currently cease at the end of November. However, recent SNH counts show that goose numbers on Islay even in December and January are considerably higher than those present in spring (Mason *et al.* 2017), with a drop even by November in some years. In 2018, for example, the SNH November count recorded 30,400 (SNH, unpublished data) in comparison with our October count of 36,500. It is likely, therefore, that there will be additional exposure of geese that are part of other SPA populations to culling at that time too, further emphasising the need for an urgent review of the impact of the Islay Goose Management Strategy on these other SPAs.

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Quail numbers and habitat use on an Angus farm, 1985–2017

N. HAYWARD, D. PARISH & A. SMITH

Introduction

The Quail *Coturnix coturnix* is a scarce, irregular visitor to the open habitats of Scotland, with numbers varying greatly from year to year (Forrester *et al.* 2007). Most of our knowledge of the numbers present locally each year comes from the Angus & Dundee Bird Reports (ADBR) and the BTO's BirdTrack database. Both largely comprise casual observations and there are currently no targeted surveys for Quail. Furthermore, the accuracy of abundance estimates for this very secretive, highly mobile species are notoriously dubious (Puigcerver *et al.* 2012), based as they most often are on the number of calling males heard. Males temporarily cease calling once mated and as they practise serial polygyny (one male mates with and guards a female until she lays, then seeks another Guyomarc'h *et al.* (1998)) the relationship between the number of calling males and breeding attempts is complicated. Rodríguez-Teijeiro *et al.* (1992) showed that in north-east Spain, males remained at a site for no more than 15 days, probably leaving after mating in search of further females. They also showed a highly male-biased sex ratio of 4.9:1 - a ratio that increased with latitude between Morocco (1.6:1) to Austria (13:1, Rodríguez-Teijeiro *et al.* (1992)). In addition, birds may move in response to changes in local weather conditions or the harvesting of crops (Rodríguez-Teijeiro *et al.* 2009). The combination of little systematic survey effort and a potentially inaccurate means of assessing population abundance indicates that there is significant room for improvement in our estimates of Quail abundance in Scotland and the rest of the species' range.

Figure 1. Approximate location of the study area in Angus.

The species' secretive nature also hampers investigations of habitat use. They are reported most often from cereal crops: mainly wheat and barley (e.g. Rodríguez-Teijeiro *et al.* 2009, Sardà-Palomera *et al.* 2012), to the extent that seasonal distribution of Quail can be predicted from the distribution of cereals and harvest dates as birds leave crops shortly after harvest (Sardà-Palomera *et al.* 2012). However, there are very few quantitative records of habitat use for this species. Watson (2001) described the habitats in which Quail were heard between 1988 and 2001 in North-east Scotland, with 48% of records in spring barley, 12% in winter wheat and 9% in winter barley, but gave no indication of habitat availability.

Here we summarise a long-term dataset from a single farm in Angus where Quail were recorded by the same observer in every year and effort was similar across years. Although these survey data do not address issues around actual abundance, this approach addresses concerns around systematic survey effort. Such a longitudinal study is therefore potentially informative in relation to data such as climate and habitat use.

Methods

The farm was in Angus (Figure 1) at around 100 m asl with a total area of 154 ha. Detailed records of annual cropping are not available, but until 2003 the farm typically had up to 80 ha of spring barley, 14 ha winter wheat, 30 ha grass (grazed by sheep), 10 ha kale, 10 ha potatoes, 10 ha fallow and 12 ha trees/shrubs. The latter included 4 ha of habitat mosaic comprising Broom bushes and grassy banks with a diversity of wildflowers typical of arable and lightly grazed grass in Scotland. Grazing was by sheep most years (probably two out of three winters) post-harvest ceasing no later than January. The proportion of fallow increased marginally over the years and cropping decreased, with winter wheat production ceasing after 2003. Potato production paused around the same time and restarted in 2011. From 1992, legally controllable predators (mustelids, rats, crows and Foxes) were trapped and shot in the spring and summer and supplementary cereal grain hoppers were provided from October to May to support a farm shoot.

Quail encounters (seen or heard) on the farm were recorded during routine farm work during spring and summer (monitoring sheep, crops and traps, spraying, harvesting) on a near daily basis by NH over 33 years from 1985 to 2017. Quail were a species of particular interest so when encountered the numbers of adults and/or young were recorded. Most Quail sightings (estimated at >95%) were the result of chance encounters flushing birds from cover. Multiple encounters in one year were counted as one individual unless birds were seen or heard in different locations at the same time or in very close succession, or where plumage characteristics allowed individuals to be identified. Data from the farm will therefore be minima of numbers present. It was not possible to determine age for some bevy members because the chicks were well-grown; in these cases, it was assumed the age composition (adults vs young) was the same as for known-age bevies, and these estimates were included in the summaries of abundance.

Data on Quail records from elsewhere in Angus & Dundee were obtained from the BirdTrack database and the ADBR. Records for the former were available for 2002–17 (supplied by BTO February 2019) and for the latter for 1985–2012, excluding 1991, 1992 and 2010 (accessed online via the oSBR in January 2019). These data were used to compare first-encounter dates (the first date in any year when Quail were encountered) and abundance. We note that the BirdTrack database is liable to change as records can be edited at any time. From the ADBR, it was usually clear how many individuals were present, but where bevies of adults and young were not described, it was assumed that each comprised a female plus its young. It is not clear to what extent the same records appeared in both datasets, but it is likely this occurred to some degree. In 2008, both datasets listed the earliest record for Quail as 3 April, however a simple correlation test conducted on count data (where records from both sources were available in the same year) suggested a poor match ($r=0.15$, $P=0.61$). The ADBR suggested the 3 April record might have been an escapee, so this has been excluded here.

The number of records in each habitat were compared with that expected if birds were distributed at random using a Chi-square (χ^2) test, with expected values calculated on the basis of maximum crop area. Thus, if a crop occupied 50% of the area, approximately 50% of encounters would be expected from within that habitat. This was carried out for three time periods: 1985–2003 (all crops present; 86 encounters), 2004–10 (no wheat or potatoes; 66 encounters) and 2011–17 (no wheat; 37 encounters).

Results

During the 33-year period there was a total of 205 days where Quail were encountered on the farm in Angus, equating to at least 59 adults and 50 young (see Appendix). The earliest that birds were recorded for the first time in any year was 29 May in 1998, the latest was 15 August in 2011 (Table 1). There was no visual evidence of a long-term trend, or quasi-cyclical pattern in first-encounter date over the years (Figure 2).

Table 1. First-encounter dates for Quail in Angus & Dundee from the Angus farm, BirdTrack and Scottish Bird Reports.

	Mean	Median	Range
Angus farm (1985–2017)	25 June	19 June	29 May–15 August
BirdTrack (2002–2017)	3 June	2 June	2 May–21 July
Scottish Bird Reports (1988–2012)	7 June	30 May	2 May–25 August

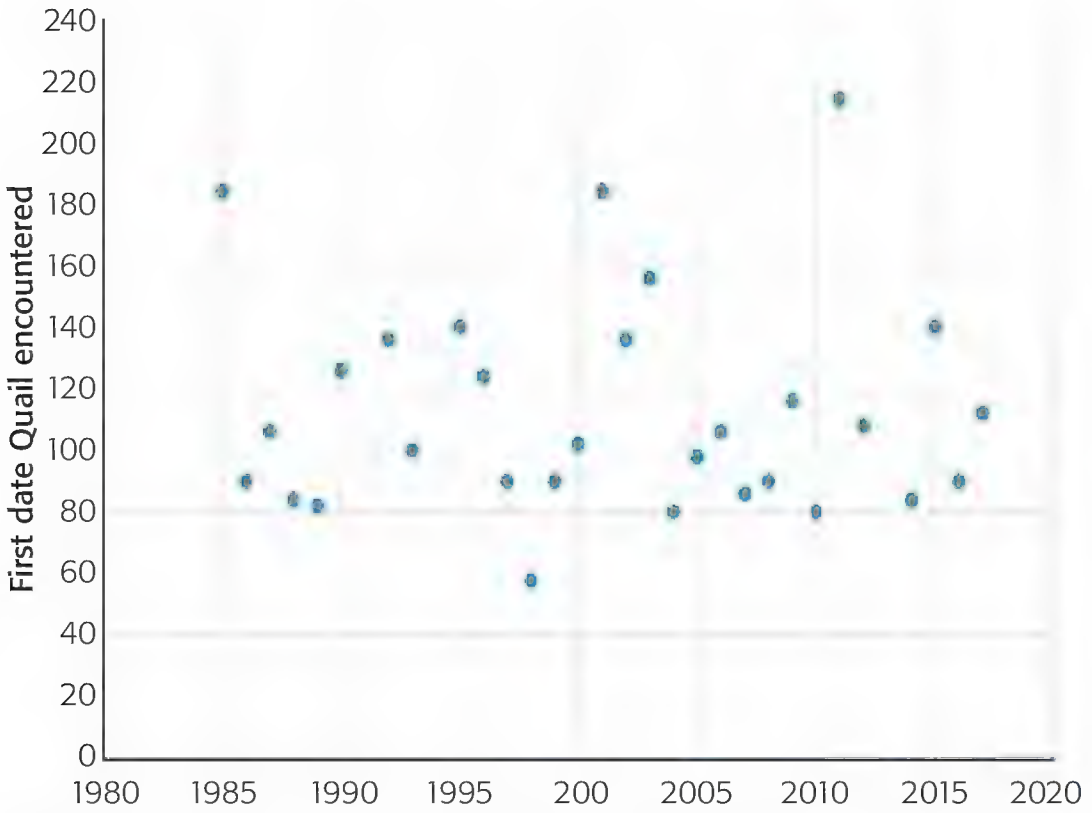

Figure 2. First encounter date for Quail on the Angus farm in relation to year, 1985–2017. 1=1 January; 121=1 May; 152=1 June; 182=1 July; 213=1 August.

There were 25 years (76%) where adults were encountered, averaging 1.8 individuals per year (range 1–5 adults) during these 25 years and six years (18%) where young were seen. Table 2 shows the composition of bevies: as most included two adults, it is assumed this was the same for those bevies where age could not be determined. On this basis there was a total of 10 broods seen on the Angus farm, averaging 6.2 young (range 1–10). There were only three years (1991, 1994 and 2013) when Quail were not encountered at all.

When comparing farm records to other local sources (Figure 3), focusing on the 11 years when all three sources provided data, Quail were present on the Angus farm in all 11, in the ADBR records in 10 and the BirdTrack records in nine. Furthermore, the records from the Angus farm comprised on average 16% of Quail recorded from all sources combined (5–40%). The ADBR recorded young in four years (13% of 28 years), three of which also recorded brood size, averaging 7.0 (4–11). The BirdTrack database recorded young present in one year (6% of 16 years): a single observation of a group comprising two adults and two young.

Table 2. Details of bevy sightings on the Angus farm.

	Number seen		
	Adult	Young	Unknown age
1999	2	1	
	2	9	
2004	1	9	
2005	2	8	
	2	7	
2006	2	1	
			12
2009			5
			10
2011*	2	2	8*

* There were two observations in 2011 almost certainly of the same group: the first on 22 September recorded two adults and two young, the later one on 28 September a group of eight but with no discernible difference in age. We assume, therefore, this record for 2011 was of a single bevy comprising two adults and six young.

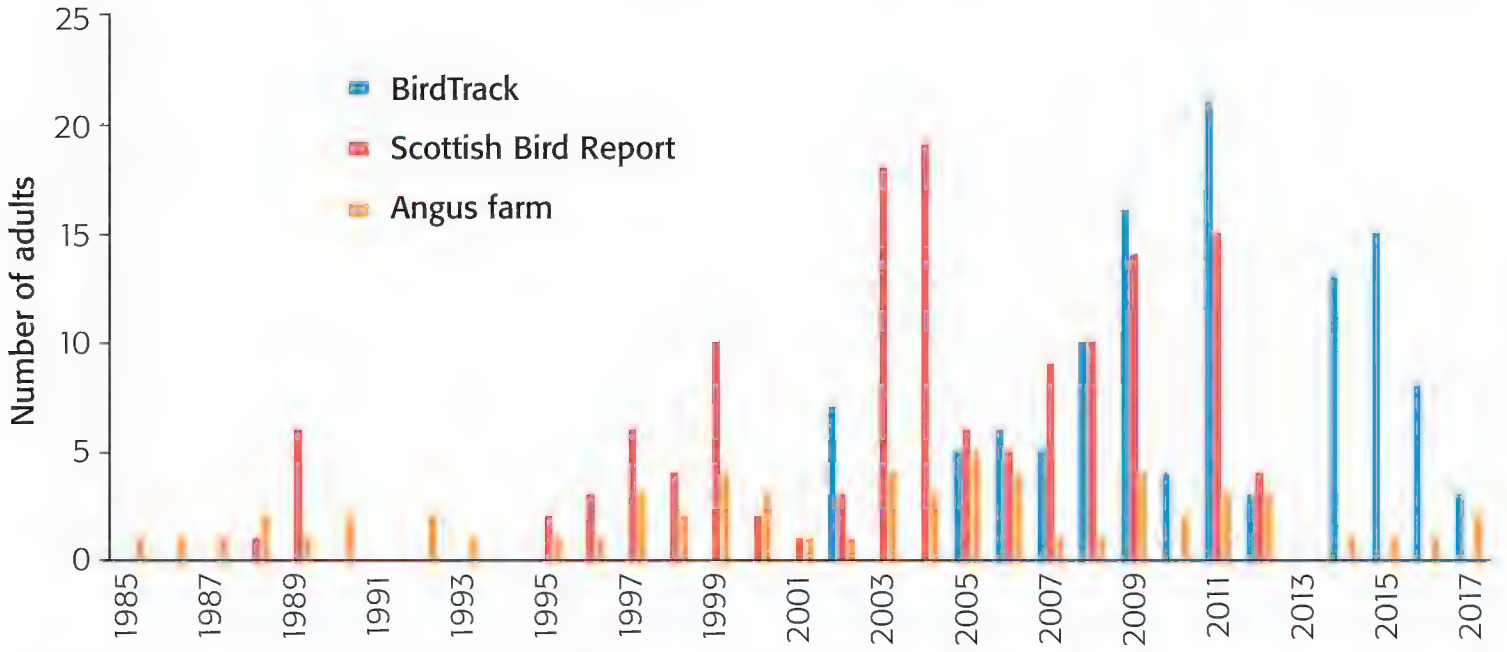

Figure 3. Annual counts of adult Quail on the Angus farm relative to the Scottish Bird Report and BirdTrack records for Angus & Dundee 1985–2017.

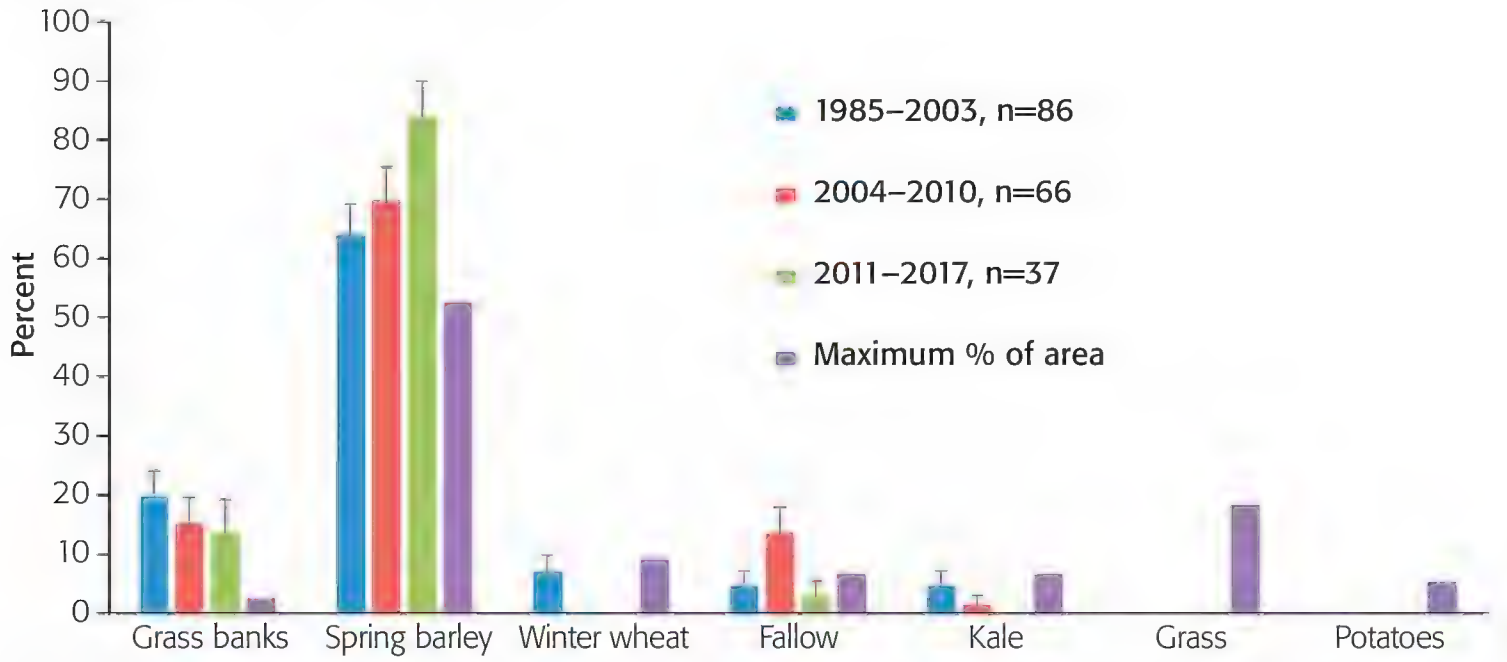

Figure 4. Average (+ standard error) proportion of Quail encounters in different habitats on the Angus farm for three time periods with different crop availability (see Methods), in relation to the maximum proportion of area devoted to each crop (n=number of encounters).

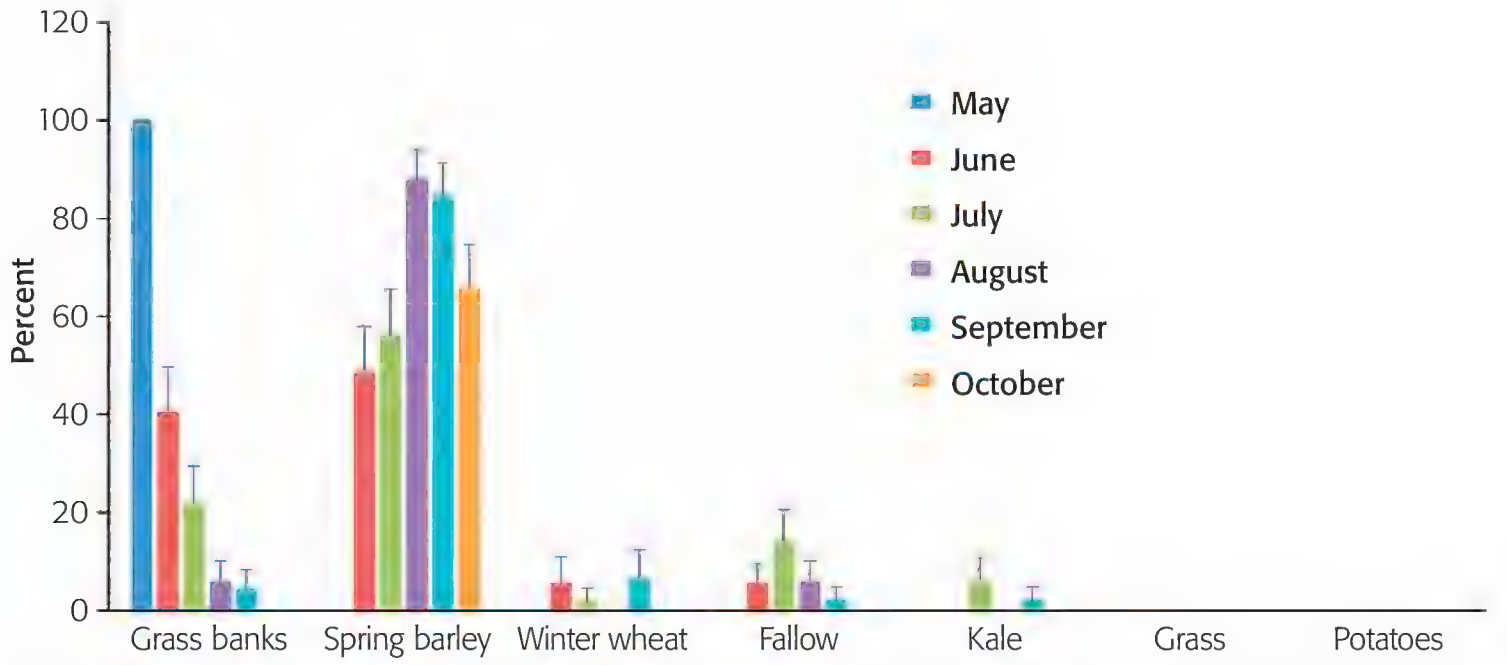

Figure 5. The monthly change in the proportion (+ standard error) of Quail encounters in different habitats on the Angus farm, 1985–2017 (n=number of encounters).

There was a total of 202 encounters with Quail on the Angus farm where the habitat could be identified. The majority (141, 70%) were in spring barley with 35 (17%) in the grassy banks. The remaining encounters were in fallow (7%), winter wheat (3%) and kale (2%), with none in rotational/ley grass or potatoes. The average proportion of observations in each habitat for the three time periods is shown in Figure 4 in comparison with the maximum proportion of the farm that each crop occupied. A conservative estimate of which habitats were preferred suggests that grassy banks, and to a lesser degree spring barley, were selected by Quail because a greater proportion of observations were present in these habitats in each period than would be expected if birds were distributed at random (1985–2003: χ^2_6=121.4, P<0.01; 2004–2010: χ^2_4=63.7, P<0.01; 2011–2017: χ^2_5=63.7, P<0.01). Habitat choice varied through the season (Figure 5, all data combined) as most encounters in the grassy banks were relatively early in the summer, decreasing in frequency as they increased in spring barley.

There are four records in the ADBR mentioning the habitat in which calling males were located: three in barley (75%) and one in oilseed rape (25%). The BirdTrack data mention habitats used in 15 records: 13 in barley (87%), one in peas (7%) and one in grass (7%). However, there was no indication of how common these crops were in the local landscape or of the other habitats present.

Discussion

These long-term, observer-bias free data inform trends in presence, what might be assumed to be an index of abundance and for the first time in Scotland an estimate of habitat use for an amber-listed species. This suggests the value of citizen science records, especially for a species which is at the edge of its range and for which there is no formal survey effort. This species is particularly hard to record owing to the secretive nature of both sexes, the polygynous breeding system where males move on soon after mating with each female and their habit of moving when cereals are harvested (Puigcerver *et al.* 2012). Therefore, current estimates of population trends may be inaccurate and there are contradictions in the literature and questions about how count methodology might impact perceived trends (Rodríguez-Teijeiro *et al.* 2010; Puigcerver *et al.* 2017). Data presented here show that the effort devoted to noting Quail encounters on the Angus farm paid dividends as this one site held up to 40% of the Quail recorded in Angus & Dundee, and hints at what might be missed annually across Scotland.

The observational effort of near-daily visits is a practical means of conducting large-scale species-specific surveys only when similarly motivated individual observers can be facilitated, as occurs for the National Partridge Count Scheme (e.g. Ewald & Aebischer 2010) or in 'Farmer Clusters' (Natural England 2017). It has been suggested that playback surveys, where female calls are played and the observer listens for male responses, might improve estimates of Quail abundance and population trend estimates (Puigcerver *et al.* 2017). However, given the latitudinal variation in sex ratio (Rodríguez-Teijeiro *et al.* 1992) this would not solve all the issues associated with censusing this species. It might facilitate a targeted, short-term survey of male Quail numbers in Scotland and would elucidate trends in numbers of males if repeated at reasonable intervals, but ideally would require research in Scotland to clarify the relationship between male and female numbers over the course of the summer. That may be particularly pertinent in Scotland given the observation that most bevies on the Angus farm comprised two adults (presumably male and female) plus young, whereas the norm reported elsewhere is that only females stay with the young (Guyomarc'h *et al.* 1998). Perhaps the finding in Scotland is normal for Quail populations at this latitude, which is approximately the northern limit for the species. Here females may be scarce if the trend in sex ratio reported by Rodríguez-Teijeiro *et al.* (1992) holds, and the breeding season is relatively short, offering few opportunities for males to find additional females in time to breed successfully. This would require further research to confirm.

Better information regarding current trends would be useful as there is some concern about the conservation status of this species. In the UK it is amber-listed as it is recovering from a historical reduction in its breeding population (Eaton *et al.* 2015). Likewise, in mainland Europe there has been a long-term decline followed by recent stability (Puigcerver *et al.* 2012, 2017). It seems that what has prevented the Quail from undergoing the same recent declines that many other farmland species have suffered (Donald *et al.* 2001) is a change in migration strategy (Guyomarc'h 1992), its colonisation of the irrigated plains of North Africa (e.g. Hanane 2014) and its extraordinary reproductive capacity (Guyomarc'h *et al.* 1998).

The species' reliance on agricultural land is well illustrated by its habitat use. Most sources suggest Quail prefer open areas of reasonably dense, but not tall, herbage especially cereals (e.g. Snow & Perrins 1998, European Commission 2009, Sardà-Palomera *et al.* 2012), but there are few studies quantifying habitat use relative to availability and none in the UK. Although not perfect, the data presented here confirm the importance of cereal crops relative to other habitats available on the Angus farm and the BirdTrack and ADBR databases mirror this with most records of habitats used from barley. The Angus farm data also show that the grassy-banks with sparse shrub cover were particularly important early in the season. This was likely because other potential cover, especially from their favourite crop, spring barley, was scarce at this time as such vegetation was still short. This hints at the important role novel forms of spring cover could have in attracting prospecting Quail in the absence of mature cereal crops. However, the main vehicle for facilitating such novel, uncropped habitats on farmland, the Scottish Government's Agri-Environment and Climate Scheme, does not currently offer prescriptions that would provide this cover in early summer.

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A Short Note on Quails in Borders can be seen on pages 244–245.

Appendix: annual counts from the Angus farm. See Methods for details.

	Adults	Young		Adults	Young
1985	1		2004	2	
1986	1		2004	1	9
1987	1		2005	1	
1988	2		2005	2	8
1989	1		2005	2	7
1990	2		2006	2	1
1991	0		2006	2	10
1992	2		2007	1	
1993	1		2008	1	
1994	0		2009	2	3
1995	1		2009	2	8
1996	1		2010	2	
1997	3		2011	1	
1998	2		2011	2	6
1999	2	1	2012	3	
1999	2	9	2013	0	
2000	3		2014	1	
2001	1		2015	1	
2002	1		2016	1	
2003	4		2017	2	

The occurrence of Leach's and Storm Petrels in Dumfries and Galloway

B.D. HENDERSON

Summary

A total of 157 Leach's Petrel and 222 Storm Petrel records were sourced from 1830 to 2019 of which 33% and 17% respectively were from earlier than 1985. All inland displacement records occurred prior to 1985 and mostly involved Leach's Petrels. Most Leach's Petrels were seen off the North Rhins following severe inshore westerly and north-westerly gale-force conditions usually during September, conversely most Storm Petrels were observed distantly offshore or at sea, often in benign conditions, during mid-to-late summer months. Ringing recoveries showed an interchange of birds with islands off the west coast of Scotland and the Isle of Man and some rapid mid-to-late-summer movements. Storm Petrels were recorded from significantly more locations than Leach's Petrels. Both species were rarely noted together.

The Leach's Petrel *Oceanodroma leucorhoa* breeds in the North Pacific and North Atlantic (Hagemeijer *et al.* 1997). In Scotland passage migrants are mostly seen in autumn; the majority along the west coast (Forrester *et al.* 2007). The Storm Petrel *Hydrobates pelagicus* breeds on offshore islands on the Atlantic fringe of Britain (Mitchell *et al.* 2004). In Scotland away from their breeding ranges they are summer and autumn visitors (Forrester *et al.* 2007). During the 19th and 20th centuries, both species were rare passage migrants in Dumfries and Galloway. They are currently classified as scarce passage migrants (Henderson 2020).

The purpose of this paper is to describe the occurrence of both petrels in Dumfries and Galloway using archival and unpublished records together with Storm Petrel ringing data. An extensive literature and online search was undertaken for all records of these petrels in Dumfries and Galloway. Principal sources included the *Transactions and Journal of Proceedings of the Dumfriesshire and Galloway Natural History and Antiquarian Society* (1862–63 to present), *The Scottish Naturalist* (1871–1872 to 1891), *Annals of Scottish Natural History* (1892 to 1911), *Scottish Naturalist* (1912 to 1961–1964) and *Scottish Birds* (1958–61 to present). Scottish bird reports and county ornithological bulletins and reports were referred to, as were the handwritten and typescript notes of the late Donald Watson (late 20th century). Unpublished records were sought from local and visiting ornithologists including those no longer living in the county.

Leach's Petrel

Historical Records 1830–1984

The earliest references involved individuals at Jardine Hall, Applegarth in November 1830 (Jardine 1831), at an unspecified location during December 1831 (Gladstone 1910) and at Kirkpatrick-Fleming in December 1838 (Jardine 1843). Thereafter a further 49 records involving a minimum of 117 individuals were sourced from 35 locations of which 54% were inland including displaced individuals at Corsock, Sanquhar and Thornhill. Most records occurred at Annan (19%) and at Corsewall Point (11%). Historically, long periods elapsed between sightings with many records associated with autumnal and winter storms, most notably during 1891, 1906 and the 'great wreck' of October–November 1952 (Wynne-Edwards 1953). Most records occurred during September (38%), November (22%) and October (16%) with fewest during December (10%)

and January (14%). From 1974 onwards most records (67%) were associated with seawatching activities off the North Rhins including minimum counts of 20 past Corsewall Point on 11 September and 11 on 17 September 1978 (Dennis 1979) and 12 on 9 September 1984 (Hogg 1985).

Recent records 1985–2019

There were 105 records, involving a minimum of 676 birds, the majority recorded from land-based seawatches at Corsewall Point (85%) or at sea during pelagics or ferry crossings in the North Channel (7%). The rest were seen along the Inner Solway or the Rhins of Galloway. There were annual fluctuations in the numbers of records and the number of birds seen in the region (Figure 1). Mean annual number of birds was 19 (range 1–96); the highest annual total was 96 individuals during 2018. The majority were seen during September (59%) and October (29%), with the remainder during August and November (both 4%) and March, May, July and December (all 1%). Seven single-day counts exceeded 30 individuals (range 32 to 44) and a further 14-day counts ranged from 10 to 25 individuals. The highest day totals all occurred at Corsewall Point and included 44 on 14 September 2018 (Henderson 2020), 41 on 6 September 2019 (pers. obs) and 36 on 14 September 1985 (Watson 1986). Based on the highest day counts, the mean peak passage date was 13 September (range 3 September to 20 September). Unseasonable records included singletons off Corsewall Point on 20 March 2019 (pers. obs.) and on 25 May 2011 (Irving 2012), four at sea from aboard the Cairnryan to Larne ferry crossing on 28 July 2005 (Norman 2006) and two seen offshore at Southerness on 3 December 2006 (Norman 2007).

Storm Petrel

Historical Records pre-1857–1984

The earliest reference was an individual at Kirkmahoe some time prior to February 1857 (Gibson 1858), followed by birds in the neighbourhood of Annan in December 1866, November 1872 and circa 1890 (Gladstone 1910, 1923). A further 34 records followed at 22 locations of which seven were inland, including individuals displaced at Bargrennan, Eskdalemuir, Hightae and at Lockerbie. Most records occurred at Loch Ryan (16%), Corsewall Point (13%) and at sea (11%). Most records occurred during September (22%), November (19%) and October (16%) with fewest during December (8%) and

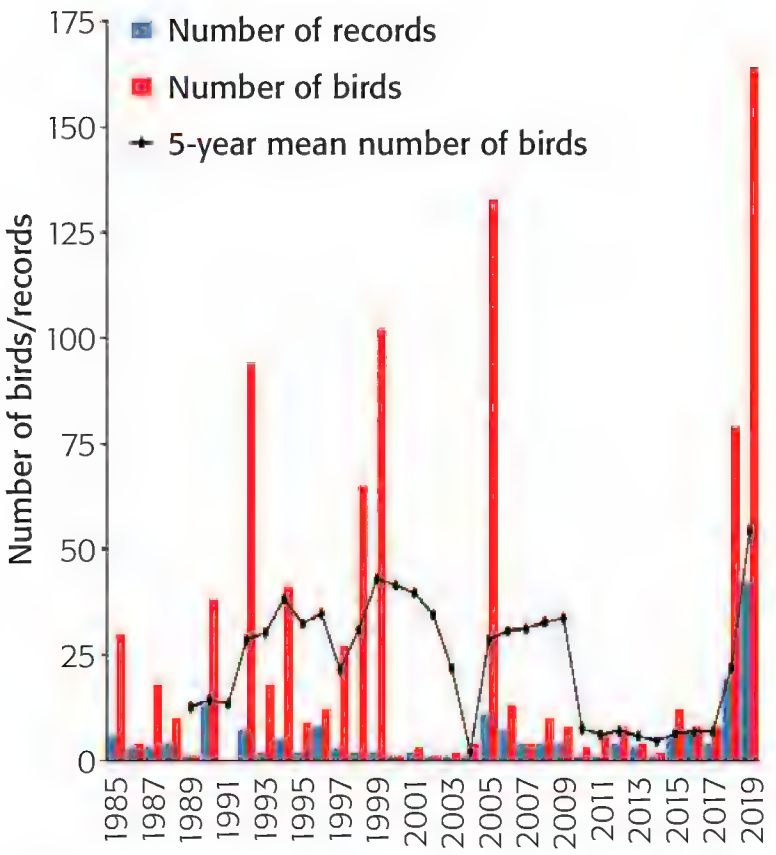

Figure 1. Annual abundance of Leach's Petrels in Dumfries and Galloway 1985–2019.

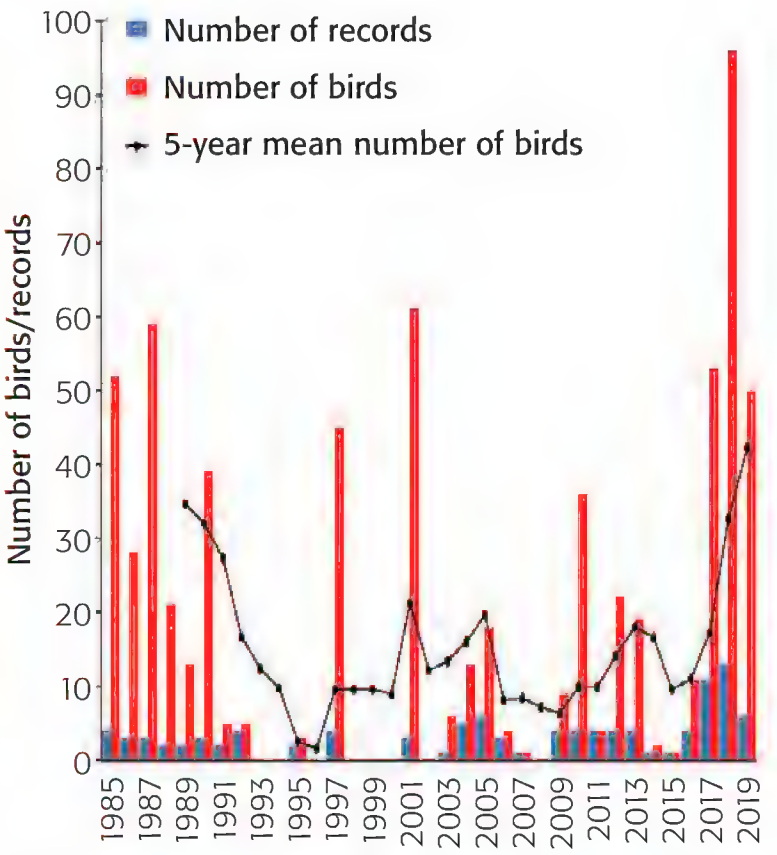

Figure 2. Annual abundance of Storm Petrels in Dumfries and Galloway 1985–2019.

January, February, June, July and August (all 5%). From 1970 onwards most records (58%) occurred off the North Rhins or at sea (25%) including counts of 30 and 10 from ferry crossings during September 1980 and June 1982 respectively (C. Rollie pers. comm., Dennis 1984).

Recent records 1985–2019

There were 185 records, involving a minimum of 746 birds, the vast majority of which were recorded from Corsewall Point (65%) and at sea during pelagics or ferry crossings in the north Irish Sea and the North Channel (14%).

Others were seen at 22 locations from the Inner Solway to the southern tip of the Rhins of Galloway. There were annual fluctuations in the numbers of records and the number of birds seen in the region (Figure 2). Mean annual number of birds was 26 (range 1–164); the highest annual total consisted a minimum of 164 individuals during 2019. The majority were seen during August (35%), July (26%) and September (17%) with the remainder during June (14%), October (4%) and May and November (both 2%). Late sightings included singletons at Loch Ryan on 10 November 1985 (Watson 1986) and off Corsewall Point and Ardwell, both on 9 November 1986 (Watson 1987, C. Rollie pers. comm.). Seven counts exceeded 20 or more individuals (range 20 to 100) and a further 13 counts ranged from 10 to 15. The highest day totals were a minimum of 100 at sea in the North Channel on 25 August 1999 (Norman 2001), counts of 65 and 92 past Corsewall Point on 28 August 2005 (Norman 2006, K. Shaw pers. comm.) and 53 at sea in the North Channel on 6 August 1998 (Collin 1999).

Ringing and recoveries

Sixty-one Storm Petrels have been caught at six locations in the region since 1994. Most (74%) were caught at Corsewall Point on the North Rhins including 22 on 22 August 1994 (B. Griffin pers. comm.). The remainder were caught at Point of Lag, Monreith (13%), Abbey Burnfoot, Port Mary (7%), Black Head, Killantringan (3%) and Gipsy Point, Kirkcudbright Bay and Ardwell Point, South Rhins (both 1.5%). There have been 18 recoveries relating to 12 different individuals, which were ringed in Dumfries and Galloway. All recaptured birds were ringed at Corsewall Point during 1994 or 1995. Recaptured birds were recaught at eight locations, the majority on Sanda Isle (28%), Calf of Man (22%) and Fladda, Treshnish Isles (17%). Most recoveries occurred during 1995 (33%), 1996 (22%) and 1997 (17%), the rest were recaptured during 1994, 2001 or 2006. Two individuals were recaptured on three occasions, one on Fladda during 1997, 2001 and 2006 and one on Sanda Isle during 1996 (twice) and 1997. Two others were recaptured twice, one twice on Sanda Isle and another on Calf of Man and in County Down, Eire. One individual was recaptured 531km away on Isle of Portland, England, another at Auskerry, Orkney and one in County Cork, Eire. All recoveries were taped-lured with the exception of an individual at Rossall Point, Fleetwood in England, which was found dead on the tide-line (B. Griffin pers. comm.). An individual ringed at Lothbeg Point, Helmsdale was controlled at Corsewall Point on 21 July 1994 (G. Sheppard pers. comm.).

Discussion

Historical records showed that 15% of all Leach's Petrel and 4% of all Storm Petrel records involved birds that were displaced by autumnal and winter storms, An upsurge in bird recording in the region in general coupled with an increase in seawatching off the North Rhins from the 1980's onwards, often by visiting ornithologists, resulted in an increase in sightings, particularly of Leach's Petrels during the mid-1980's.

The annual abundances patterns noted in the region during 1987 were mirrored in Ayrshire but not in Argyll while the 1997 and 2001 patterns were matched in both neighbouring regions (oSBR). The seasonal peaks of abundance that coincided with and following September passage movements were dependent on specific westerly-to-northwesterly gale-force conditions forcing birds closer inshore. Similar observations were noted in neighbouring recording regions (Hogg

1988, Maguire 1999, Forrester *et al.* 2007). The count of Leach's Petrels off Corsewall Point on 15 September 2001 (Norman 2002) may have exceeded 45 birds as several observers submitted independent records from uncoordinated seawatches.

The annual abundances patterns of Storm Petrels noted in the region during 1992 were matched in Ayrshire but not in Argyll. During 1999 similar movements were mirrored in both neighbouring regions whilst in 2005 the pattern was echoed in Argyll but not in Ayrshire (oSBR). The high count of Storm Petrels seen at sea on 25 August 1999 from aboard the Stena Line Seacat were deemed to be in Dumfries and Galloway waters at the time of observation during a half-hour period. The total count of Storm Petrels off Corsewall Point on 28 August 2005 may have exceeded 100 birds, as some additional sightings were never submitted to the county recorder (P. Collin pers. comm.). A suggested population increase of Storm Petrels off Argyll in recent years has contributed to an increase in the number of wandering or prospecting immature birds (R. Ward pers. comm.).

The eradication of rats on Ailsa Craig since 1991 (Zonfrillo 2001) has resulted in catches of Storm Petrels there in recent years (B. Zonfrillo pers. comm.). Breeding is strongly suspected again (B. Zonfrillo pers. comm.). Storm Petrels have not been proven to breed in Dumfries and Galloway. Constraints may include the lack of offshore islands, the coastal geology not offering suitable nesting crevices, predation by gulls and mammals. Breeding may have gone unnoticed in the region due to the lack of observers venturing out at night in areas where birds could possibly be breeding.

The low number of Storm Petrels ringed in the region is attributed to difficulties in organising catches at night in remote areas. Ringing recoveries showed that there is some interchange of birds between islands off the Inner Hebrides, the Kintyre peninsula and the Isle of Man and support the suggestion that a potential summering /passage area for the immature Storm Petrel population exists within the north Irish Sea, the North Channel and the Firth of Clyde waters (Morton & Maguire 2017, R. Morton pers. comm.).

Relatively few Storm Petrels were recorded concurrently with Leach's Petrels. Adverse summer storms rarely resulted in any Leach's Petrels, conversely during severe autumnal storms few Storm Petrels were recorded. Hogg (1988) and Maguire (1999) noted similar inshore occurrence observations off Ayrshire and the Mull of Kintyre.

The recent increase in records of Leach's Petrel is attributed to favourable meteorological conditions and to concerted observer coverage during periods of peak movements. The notable recent increase in Storm Petrel numbers is attributable to the possible increase in the number of wandering immature birds coupled with concerted observer coverage overlooking the North Channel from Corsewall Point on the North Rhins.

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Winter display and mating of Ruff

On 12–13 December 2019, Nature Scotland took out birdwatching groups on the Scottish side of the Solway Firth. On the 13th, at Seafield, Dumfries & Galloway, a walk to the viaduct was followed by observation of a small roost at high tide mainly made up of Oystercatchers *Haematopus ostralegus* and Redshanks *Tringa totanus*. One of the group spotted a single Ruff *Philomachus pugnax* and then two more. Watching through telescopes, we noted one adult male, still showing a deal of white suggesting a summer plumage white bird, while the other male retained a strong buff chest so was judged an immature bird, and a female. The adult male was separate from the other two. The immature male was displaying to the female while in the mixed wader roost. This male then mated with the female which started preening after the event. Forrester *et al.* (2007) suggests that the Ruff is an uncommon wintering bird with 10–20 records per year. It does not mention winter display or mating and there have only been a few breeding records in Scotland. Professor Des Thompson, who has done a lot of wader work, commented: "I'm totally puzzled by the Ruff behaviour - it is intriguing. BWP [Cramp & Simmons 1983] does not even hint at what you describe". Local recorder, Paul Collin, describes Ruff as regular in Dumfries & Galloway in small numbers principally during migration. Winter usually sees a scattering of up to three, mainly at the most-watched sites like Caerlaverock and Mersehead. The highest count was nine back in December 1988 on the River Nith. In recent years, there have been increases in records of Ruff on the English side of the Solway including one group of 19 males and one female on 12 January 2018 coming to roost on the RSPB reserve of Campfield at dusk. This roost at Seafield is not that far from there as the Ruff flies!

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Quail in the Borders

My experience of Quail is similar to that of Nigel Hayward in Angus, see pages 232-238. I have recorded them at Newmains Farm at Reston in the Scottish Borders from 1982 to 2019. The only years when no Quail were seen were 1984 and 1998. Newmains is a mixed farm usually with c. 48 ha of spring barley and 12 ha grass for hay, 4 ha grazing, 5 ha turnips, $^2/_3$ ha each of woodland, wild bird cover wetland and ponds. Quail seem to prefer spring barley if given the choice. I do contract combining, baling, wheat and oats on other farms and see most Quail in spring barley. Quail may prefer spring barley as it is thinner and shorter than winter barley and wheat and so easier to dry off in after rain. I occasionally get Quail in grass fields on the farm but not often. The dates on Newmains are similar to the Angus farm. When counting calling Quail I try to count them on a weekly basis at peak times. Fields are relatively small on the farm averaging c 7 ha so it's easier to judge how many birds are calling. I always err on the low side when counting. Spring barley is usually sprayed three times in a season so I can get good counts when flushing birds. All the barley is sprayed in one day reducing the chances of birds being counted more than once. My earliest sighting has been 9 May; my latest is 25 October. From 1982 to 2019, I've recorded 90 adults, mainly males and 47 juveniles. The numbers of adults for the Angus farm seem a lot less than Newmains given that the Angus farm is much bigger, yet they seem to

be raising more young which is interesting. Maybe the higher number of calling males has a negative effect on breeding success? I think occasional Quail may possibly overwinter and are not necessarily escapes. In the autumn of 2007, I flushed some very small juveniles on 20 September and thought at the time they would struggle to migrate. The field they were in had a strip of wild bird cover. It was in this strip of cover that I flushed a Quail the following spring on 21 March and on several following days. As this was too early for a migrant, I was pretty sure the bird had wintered. I tend to disagree that Quail move on after fields have been harvested. I often see them while baling straw which can be weeks after combining. I have heard of Quail being flushed by a dog from a nest with eggs in stubble from a field combined a few weeks earlier. When Quail first arrive in the area around Newmains birds often call from neighbouring fields of wheat and winter barley. They then usually move into spring barley when it has grown a bit to give them more cover. Some years when I've had large numbers calling e.g. nine in 1989 they don't always have much breeding success. Quite often juveniles are flushed in fields I hadn't heard birds calling in for long. So, it is difficult to judge how many birds are actually breeding without actually seeing juveniles. Young Quail are very small and it just takes a few wet days at the wrong time to cause losses. I know how the weather affects Grey Partridges on the farm where 12 pairs usually breed but sometimes fail to raise any young if the weather is bad. Most Quail are seen while combining; a good few are seen while baling straw and I sometimes see good numbers when spraying or when walking through crops pulling wild oats. Night time is usually the best time for hearing birds calling though sometimes birds call all through the day as well. I only once heard a Quail calling while flying over very high up, possibly on migration?

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American Bittern in Caithness, 1863

The American Bittern *Botaurus lentiginosus* remains an extremely rare bird in Scotland, with just seven records listed in *The Birds of Scotland* up to the end of 2004 (Forrester *et al.* 2007). Only one has been recorded since, a bird in the Outer Hebrides during May 2019 at Loch Stiapabhat, Isle of Lewis. The third record listed in *The Birds of Scotland* was at Latheronwheel, Caithness, with the published source (Smith 1867) stating that "Mr R.I. Shearer, Ulbster House, informs me that a specimen of this very rare bird was shot at Latheronweel, Caithness, by F.S. Bentl[e]y-Innes of Thrumster, Esq., in the autumn of 1862." Nothing more was known about the specimen, with it presumed lost.

Therefore, it was of great interest when RS located the mounted specimen (Plate 164) at the Glasgow Museums Resource Centre, Glasgow (GLAMG.Z.1982.145.22). It is not known how the specimen entered the Glasgow Museums' collection, but it had been in the collection a long time before it was given a museum registration number in 1982. Fascinatingly, the mounted specimen remains in the original glass case, as shown by a label which is glued and varnished on the back, which provides contemporary information, and a correction about the date of the record. The label (Plate 165) is written on notepaper embossed with a crest 'BI', for Bentley-Innes, and the address 'Thrumster House, Golspie, Caithness'. It reads:

"*Shot at Latheronwheel on the ... of ... one thousand eight hundred and sixty three.*

The specimen of American Bittern, in this case was shot at Latheronwheel in the county of Caithness, the property of Major Stocks late 1st Royal Dragoons, who was present at the time it was killed by me. It rose out of a bunch of rushes being pointed by a pointer dog and flew very heavily as if exhausted.

Signed Frederick Stocks Bentley-Innes, late H.M. Body Guards. April 1864".

Plate 164. American Bittern, Latheronwheel, Caithness, 1863, Glasgow Museums Resource Centre (GLAMG.Z.1982.145.22). © *CSG CIC Glasgow Museums Collection*

Plate 165. Label on back of case of American Bittern, Latheronwheel, Caithness, 1863, Glasgow Museums Resource Centre (GLAMG.Z.1982.145.22). © *CSG CIC Glasgow Museums Collection*

Frederick Stocks Bentley-Innes (1837–1877) was a landowner who lived at Thrumster House. The exact date on the label has been left blank, but it mentions 1863 which contradicts Smith (1867) who instead stated that it was shot "in the autumn of 1862". However, Smith reported secondhand what Mr Shearer had related to him. It seems instead likely that Mr Bentley-Innes who shot the bird, and wrote the information on the label, would have known the correct year, although it appears that he couldn't remember the day and month, and so forgot to fill it in!

Either way, it is exciting that this important historical specimen is preserved at a Scottish public collection where it can viewed and appreciated.

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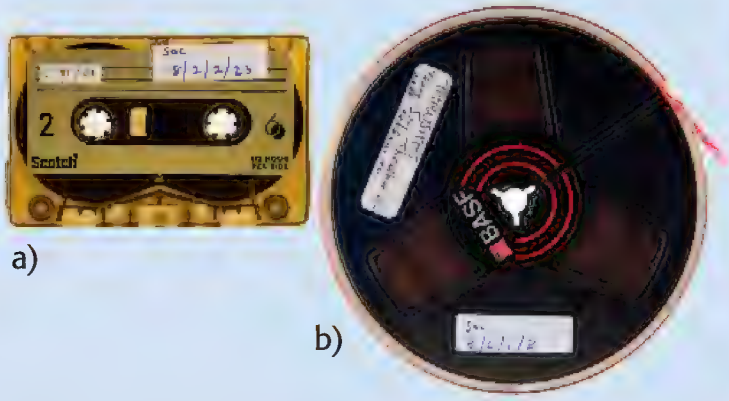
Collection Reflections - the National Library of Scotland "Unlocking our Sound Heritage" team discuss the SOC Wildlife and Oral History Collection

Following the article by Alan Knox in Scottish Birds *39(4) about digitising the recordings in the SOC Archives, the three members of the team involved each explain their own part in that process.*



a) b)

Plate 166. Examples of (a) a cassette cartridge and (b) 0.25″ tape reel. © *National Library of Scotland*

Listen to: Blackcocks, Peesweeps, Grouse, Carrion Crow, etc, Scotland, 1 March 1964: http://scotlands-sounds.nls.uk/wp-content/uploads/2020/05/NLS_SOC-8-1-1-04_s1_c1_vA.m4a

bit.ly/2ZG7sGK

Preservation Engineering reflections

by Conor Walker

The SOC tapes were a cinch to digitise; a singular and engaging collection to work through, while preparing the materials for digitisation and providing the luxury of deep listening during playback. Often when co-workers walked by to the arias of Ring Ouzels, sandpipers and peesweeps out of a 1961 East Lothian, they would comment on the serenity. The recordings from the 1960s and 1970s reveal little road or air traffic noise compared to the noise pollution we are accustomed to today. As a field recordist the diminished noise

Plate 167. Conor Walker. © *NLS*

pollution during the coronavirus lockdown offers an environmental ambience of the Scottish countryside before globalisation fully latched on.

Digitising the collection allowed me to experiment with spectrogram imagery of bird articulations. Spectrograms or sonographs are visual representations of sound, which display a spectrum of frequencies (in colour or B&W) across time. For ornithologists, spectrograms of bird vocalisations represent a visual translation or score to species sonic expressions.

Plate 168. Spectrogram of a Pied Flycatcher captured on Wavelab Pro 9 at the National Library of Scotland. © *NLS*

Often ornithological recordings are short in duration, a recordist journeys into the field to catch the song of a specific bird species. Once they capture it, they stop the recorder and move on to other birds before pressing record again. When archiving such recordings, we end up with multiple recordings across a tape, sometimes dozens. Uniquely, most of the SOC tapes feature elongated single recordings, capturing bird songs but also the environment and the passage of time. As a listener and through a doorway into a previous time, it may not be as efficient as conveying a variety of species across the length of a tape, but it gleans a more holistic approach.

Cataloguing reflections

by Rob Smith

The audio collection received from the SOC provided us all with a new and exciting challenge. The cataloguing process has two steps; the first describes the physical items that are contained within a collection. The second stage describes the recordings found on those items. While undertaking Stage 1 cataloguing, we are always looking for clues about what the contents of an audio item might be. A tape labelled 'Thrushes' for example may actually contain much more than what you expect. The cover for 'The Great Bird Binocular: a sound tour of the Scottish Bird Island Study Cruise' perfectly illustrates this point (Plate 170). As beautiful as this artwork is, it does not tell us a lot about the audio content. It is only through listening that we can hope to provide additional context to the audio.

Plate 169. Rob Smith. © *NLS*

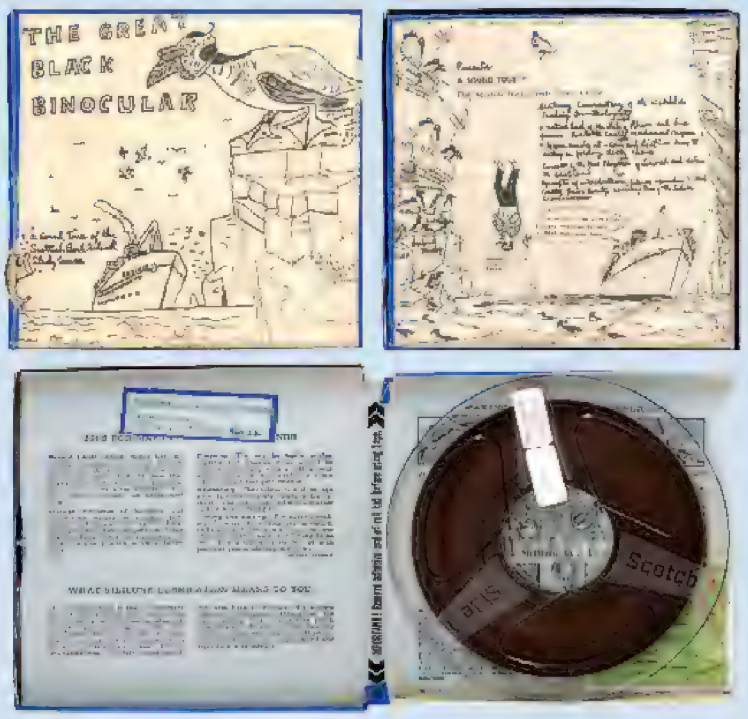


Plate 170. 'The Great Black Binocular' cover and tape. © *NLS*

Stage 2 cataloguing involves listening to the digitally preserved audio and making sense of the recordings. Each of the tapes may contain multiple recordings or 'cuts'. It is the job of the cataloguer to try and make sense of these cuts and to understand the recorded events the sound recordist was capturing. The SOC collection contained material recorded by two prominent sound recordists: Willie Brotherston and Chris Mylne. Brotherston's recordings are long, beautifully broad field recordings that are focused on birds but also capture the ambience of the recording location. He was particularly interested in the activity of Pink-footed Geese and would spend hours in specific locations waiting for the flocks to arrive.

Listen to: Short-eared Owl and geese, Fala Flow (Lothian), March 1964 by Willie Brotherston: http://scotlands-sounds.nls.uk/wp-content/uploads/2020/05/ NLS_SOC-8-1-1-04 _s2_c1_vA.m4a

bit.ly/3jlUQMA

Our colleagues at the British Library (BL) were very supportive and able to provide lots of useful discussion and guidance. Willie Brotherston also became my mentor in being able to identify bird species based on their calls and also taught me the Scottish names for certain birds too. The other prominent sound recordist, Chris Mylne, provided yet another dimension. Chris's audio recordings were not simply wildlife recordings but included a range of audio delights - soundscapes, sound effects, humorous out-takes, test recordings, and field

recordings. The approach to cataloguing these cuts (all of which might be contained on a single reel of tape!) would have to alter and adapt to work with each of these different types of audio content, what is necessary for a recording of a bird call is not the same as that of a test recording. The example below illustrates this point with multiple different recordings contained on one side of a reel.

Listen to: Kestrel in egg/Falkland Palace/Kestrel Chick/ Dolphinarium by Chris Mylne: http://scotlands-sounds.nls.uk/wp-content/uploads/2020/05/NLS_SOC-8-8-1-07_s1_c1_vA.m4a

bit.ly/3fKfsvN

While we made quick cataloguing progress through the collection it has taken many, many months of fine tuning this work to ensure that each unique 'cut' has been adequately described and identified. These catalogue records can now be found through the BL Sound and Moving Image catalogue (sami.bl.uk) and searching for 'UNLS009'.

Rights Officer reflections
by Mel Reeves-Rawling

My job is to make it possible for the recordings that have been digitised and catalogued to be made available. Almost all the recordings I work on are protected by copyright, which means I need to try and identify and contact the person who owns the copyright. The goal is to get in touch with that copyright holder and get a license from them, which allows us to make the recording available, and if that's not possible, to ensure I've done a demonstrably thorough search for them. I then review the recordings for any data protection concerns, so it can be a lengthy process from starting to a recording being cleared. With this collection I found the best-case scenario, and what is probably my favourite piece of paper I've worked with so far on the project - a form assigning the copyright in over 100 of the recordings to the SOC. The majority of these recordings don't feature any human voices and because birds don't hold copyright in their songs and those songs don't contain any personal data (and we have an existing agreement with the SOC because we are digitising the collection as part of UOSH) it was the most straight forward clearing I've done. I decided to pick out some other interesting recordings and work on them as well to get the most varied content cleared for use. This was particularly important as this collection was to be used by an Artists in Residence course as part of the project.

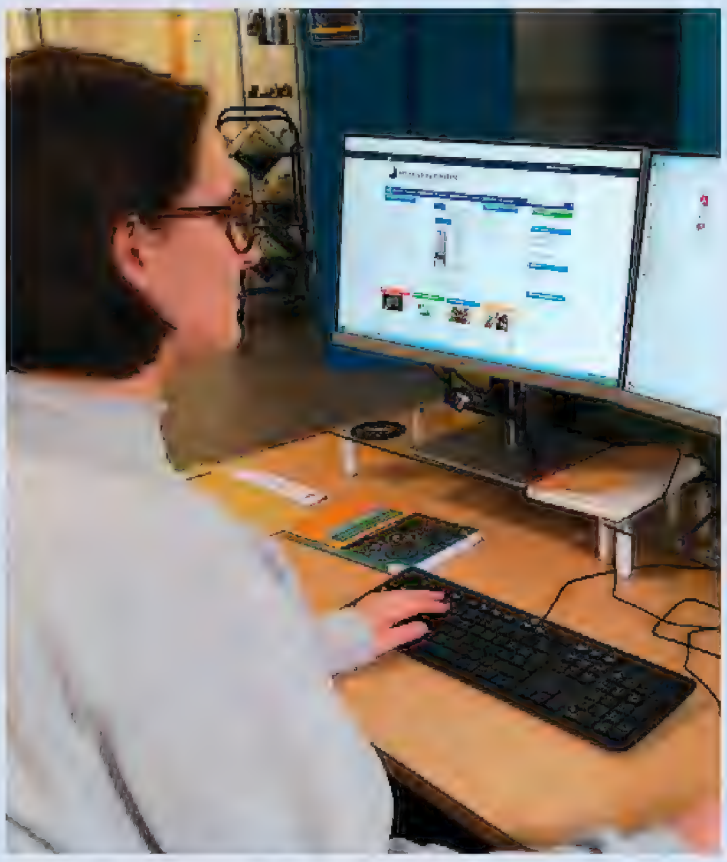


Plate 171. Mel Reeve. © *NLS*

This collection is a wonderful mix of field recordings of wildlife, recordings of Club events and members, radio shows about birds, snippets of conversation or commentary from a birdwatcher, and more. The people I managed to get in contact with were always excited to hear about the project, proud of the work of their family member and that it was being valued and preserved, and excited that others might get to enjoy it too. There's nothing quite like that moment of success when someone picks up the phone or answers that letter and I know that we can make that recording available online because of our work and because of their trust in the project.

If you would like to read the full blog and access links to the recordings mentioned above, please visit: scotlands-sounds.nls.uk/index.php/2020/05/26/ collection-reflections-01/

bit.ly/32zZSPC

Conor Walker, Rob Smith &
Mel Reeves-Rawling, Scotland's Sounds,
National Library of Scotland
Email: ScotlandsSounds@nls.uk

NEWS AND NOTICES

New Members

Borders: Mr N. Dunne, Dr G. Lloyd, **Caithness:** Mr & Mrs A. Forbes and family, **Central Scotland:** Mr T. Anderson, Mr M. Cook, Mr A. Young, **Clyde:** Ms S. Andrews, Mr A. Carlton, Mr & Mrs A. Cornfoot & family, Mr S. Jones, Mr N. Rae, **Dumfries:** Dr A. Westerberg, **England, Wales & NI:** Mr P. Bond, Mr A. Claxton, Mr P. Egerton, Dr R. Harris, Mr W. Selka, Mrs G. Sweeney, **Highland:** Mr A. Beams, Mr M. Coyler, Mr N. Greaves, Ms C. Munro, **Lothian:** Miss C. Bec, Mr J. Booth, Prof & Mrs R. Crofts, Mr J. Francis, Mr N. Middleton, Mr I. Murray & family, Mr & Mrs C. Pryse Hawkins, Mrs L. Taylor, Mr J. Wallace, **Moray:** Mr R. Gray, **North-East Scotland:** Mr T.A. Branson, Mr L. Broadley & family, Mr D. Fleming, Mr M. Johnston, **Overseas:** Prof V. Hanning, **Scotland - no branch:** Mr & Mrs P. Bird, **Tayside:** Mr D. Keith, Miss E. Platt.

Branch talks and outings

With members' safety in mind, a decision was made by Council at its June meeting to cancel all face-to-face indoor meetings scheduled for the remainder of 2020. However, rather than cancel the branch meetings altogether, individual working groups were set up to deliver *virtual* programmes, using the popular online video conferencing (VC) platform, Zoom (support will be available for anyone who has never used Zoom or similar VC technology).

At the time of writing, many branches were hopeful of resuming their field trips once Government restrictions on larger group gatherings outdoors lifted. A working group of Council issued branch committees with a clear set of safety guidelines to facilitate this.

Given the time frame and the challenges involved, it has not been possible to finalise details in time to provide a printed programme of branch meetings and outings with this issue of *Scottish Birds*. Details will be available, as usual, via the SOC website ('Our Branches') as well as circulated to members by email (please ensure you are on our mailing list/s - see below)

Important: sign up for branch activity email notices

If you do not already receive our email communications and wish to receive notices of branch talks and/or outings, please complete the short sign-up form on the SOC website: www.the-soc.org.uk/gdpr-consent or you can email Kathryn Cox to check or update your mailing list preferences: admin@the-soc.org.uk

No email access? Contact your branch Secretary
For members who do not have access to the internet to be able to check the SOC website or receive the email notices, please call your local branch Secretary to check for details of any outings that may be running

SOC Annual Conference & AGM

Autumn 2020 - dates to be confirmed

It is with much regret that Council made the decision at its June meeting to cancel this year's booking at the Atholl Palace Hotel. As with the branch meetings, plans are underway to run an online event, using Zoom video conferencing technology and potentially involving a series of sessions spread across the autumn, rather than concentrated into a single weekend. In addition to a series of presentations by guest speakers, the programme will include the Club's AGM, a young birders' networking slot, and a conference quiz.

Programme details will be posted on the SOC website and will be emailed to members who have signed up to receive Club News & Events notices. If you are not sure if you are on this mailing list, please email Kathryn Cox admin@the-soc.org.uk or complete the short sign-up form on the SOC website: www.the-soc.org.uk/gdpr-consent *If you do not have access to the internet, please contact the office on 01875 871330 to request a hard copy of the AGM agenda.*

Jimmy Maxwell

The sad news that Jimmy passed away on 15th August reached us as we were going to press. A full obituary will appear in the next issue of *Scottish Birds*.

Plate 172. Guillemot rock. © *Liz Myhill*

Trustees Annual Report 2020

This SOC's annual report is being given a slight makeover, intended to make for a more engaging read and hopefully better illustrate the Club's activities and achievements over the year. One change is that the report will be in a digital format, hosted as a PDF on the SOC website, with members notified by email as soon as it is published. *If you do not have access to the internet and would like to receive a hard copy by post, please contact the office on 01875 871330.*

Scottish Birdwatchers' Conference

'Northern Seas & Coasts' RESCHEDULED: 20 March 2021, Elgin Town Hall. Booking for the event will re-open in December 2020.

Waterston House

Opening hours

Thursday to Sunday 10:00–16:00 hrs (closed for lunch 12:30–13:00)

Staff can still be reached Monday to Friday between 09:00 and 17:00 hrs. If calling outside of Waterston House opening hours, a recorded message on the office telephone (01875 871330) will direct your call. Or you can email your enquiry to mail@the-soc.org.uk

Please check the SOC website for any updates to these opening hours, as well as details of social distancing procedures in place and the availability of facilities such as toilets (closed to the public at the time of writing).

Art exhibitions

Coastal birds - 1 August–27 September 2020
This group exhibition brings together work by Emily Ingrey-Counter, Helen Kennedy and Liz Myhill. These three artists are based in Scotland and have worked along-side each other for some time. They won the same SWLA bursary in 2018 to attend the renowned Sea Bird Drawing Course, an important personal development course for wildlife artists created by John Busby. They have since met regularly to go on working trips drawing birds and wildlife. The work in this exhibition is the result of such trips to the Isle of May, St Abb's Head and the RSPB Mersehead Reserve, as well as work developed independently closer to home.

SOC online art shop

www.the-soc.org.uk/online-shop

The Online Art Shop was developed as a new feature on the SOC website in response to the closure of the gallery during lockdown. It aims to

present a selection of top wildlife art by artists connected to SOC. This selection focuses on works on paper - watercolours, drawings and fine art prints - that are sold unframed and delivered to any address in the UK.

Launched in early June, the current selection brings together around 60 pieces by a dozen artists, including: Darren Woodhead, Lucy Newton, Derek Robertson, Lisa Hooper and Kittie Jones.

Although prompted by the lockdown, the Online Art Shop is here to stay as it increases the reach of our art programme. The online selection will change regularly to include work by artists exhibiting at Waterston House. This will give members who cannot visit the physical gallery access to some of the best wildlife art, as well as a sense of viewing the exhibitions.

Joint exhibition - Robert Greenhalf, Anthony Theakston and Matt Underwood - 1 October–15 November 2020 (to be confirmed, please check the website)

Plate 173. Ceramic owl. © *Anthony Theakston*

Plate 174. Spindle Bullfinches. © *Matt Underwood*

This joint exhibition presents paintings, prints and sculptures by three artists working in different media and with different sensibilities. Robert Greenhalf's work is well known to our audience as this will be Robert's fifth exhibition at Waterston House. Robert lives in south-east England, near Romney Marsh, where he finds much of his subject matter. Robert explains his approach: "The evening is my favourite time of day for sketching and painting in the field. Colours harmonise then and there is more activity amongst my bird subjects, but a quick response is required to capture the rapidly changing light and movement. I sketch feverishly in pencil, sometimes adding watercolour to act as an aide memoire for when I'm back in the studio creating a woodcut or oil painting." For this exhibition, Robert is joined by two new exhibitors at Waterston House: Anthony Theakston and Matt Underwood. Anthony is a sculptor working in ceramics and bronze. His work, remarkable for its pared-down quality, is held in many major UK museum collections. Matt is a painter and printmaker. His woodcut prints, in particular, offer a striking expression of his style and are widely collected for their bold colours and designs.

Local Bird Recorders

Change of contact details

Russ and Emma Neave, new telephone 01857 600289

West Galloway launches e-newsletter

A regular 'What to see this month' digest is now up and running in West Galloway, produced by local member, Eleanor Grover. The launch issue in July included a fun bird quiz with subsequent issues focussing on what birds are likely to be seen in the reporting month and any specific behaviours to look out for, plus news of any rarities that may have been seen in the previous

month. There are plans for a bird ID feature to help with confusing species and details of any future branch outings will also be announced here. If you are not already receiving a copy of the newsletter and would like to, please drop Kathryn Cox a line admin@the-soc.org.uk to be added to the branch news mailing list.

North-East Scotland Bird Report 2018

Published in March, the report contains a round-up of the ornithological year and from Grampian Ringing Group, summary movement of seabirds off Peterhead, Sooty Tern in July 2018 - first for North-East Scotland (NES), the status of White-billed Diver, and records of mammals. amphibians and reptiles in the region.

The report costs £7.00 plus p&p and can be ordered by contacting Ian Middleton by email: balbridie@gmail.com or by telephone: 07882 411469. A small number of copies are also available to purchase over the counter at Waterston House, priced at £8.00 each (please check stock availability before travelling - Tel 01875 871330). The 2019 report is expected to be published before the end of 2020. The production team would be pleased to place anyone on their mailing list (contact Ian Middleton).

Borders Bird Report 2019

The 200-page *Borders Bird Report* for 2019 covers summaries of the 214 species recorded during the year, including the first Lesser Scaup for Borders and first confirmed record of Baltic Gull for Scotland. In addition to comprehensive accounts of each species, the report also includes an account of the 2018/19 survey of inland gulleries, an outline of the main recent sightings at Greenlaw Farm Pool, at Foulden, a site which was unfortunately drained early in 2020, as well as a series of maps which describe the geographic distribution of records as a whole for the year. The report also includes a summary of ringed/marked gulls recorded at Gunknowe Loch at Tweedbank which gives an interesting insight into patterns of migration. There is also a full account for the year of ringing in the region. Copies are available from Malcolm Ross, 24 Netherbank, Galashiels, TD1 3DH and are £11 plus £2 p&p. Cheques should be made payable to SOC Borders Branch. Alternatively, copies are available at Waterston House. Reports are automatically sent to those on our mailing list.

East Lothian Winter Bird Survey 2020/21

Through its Discussion Group, the Lothian branch is organising a tetrad-based survey of winter birds in East Lothian between November 2020 and February 2021. This will follow the methodology used in the recently published local tetrad atlas. By comparing the new data with these from 2007–13, changes in the distribution and abundance of every species will be mapped. The previous winter atlas proved particularly popular and after the frustrations of lockdown, this survey will enable observers to explore new areas and contribute to a significant local project. More detailed information on how to register your interest will be available on the branch's webpage www.the-soc.org.uk/local-branches/lothian.

Rob Fray - a new member of SBRC

SBRC welcomes Rob Fray as a new member of SBRC, replacing David Parnaby from November 2020. Rob is originally from Leicester, where he spent 14 years on the Leicestershire and Rutland Records Committee and 12 years as County Recorder. He made the move north to Shetland in 2007 and now lives at Bakkasetter in the south Mainland. He has been a member of the Shetland Records Committee since 2010 and Local Recorder since 2014.

SBRC would like to acknowledge its gratitude to David Parnaby for his work over the period of his tenure on the committee. David has contributed much to SBRC, and we wish him well for the future.

Chris McInerny, on behalf of SBRC

Correction

In the June issue, page 135. In the description of the *Highland Bird Report* 2018, the first sentence in paragraph two should not mention Hawfinch but should read: "2018 saw first-ever records of breeding in Highland by Nuthatch, and..."

OBITUARIES

David Ronald Wilson (1926–2020)

Plate 175. Ann and David Wilson, beside the Ocean Bounty, June 1994. © *David Clugston*

Although David was a proud Yorkshire man living in Buckinghamshire, he was never happier than when visiting Scotland. He travelled up in his campervan heading for the Outer Hebrides or Orkney and Shetland for annual holidays. He was a life member of the SOC, who served on the Waterston Library Committee for many years. He first attended our annual conference in 1953, his last being exactly 50 years later in 2002. Over the years, he frequently brought second-hand bird books for sale.

David was born in Sheffield on 27 September 1926. He attended school in London and during the war was evacuated to Cumbria, where his interest in birds blossomed. On leaving school, he joined the Fleet Air Arm as an apprentice aeroengineer before going up to Emmanuel College, Cambridge, to study mechanical engineering. Here, he was a member of the bird club and went on expeditions to Norway and Shetland. On graduation, he joined Metropolitan Vickers in Manchester where he gained electrical engineering experience and later worked on the big hydroelectric scheme at Loch Ericht.

Spring 1959 saw a major turning point in David's life away from engineering to birds at the age of 32. The BTO had advertised for a national secretary to follow Dr Bruce Campbell. David applied, was successful and went to work in a very cramped office in Oxford. Oxford was recognised as the hotbed of British ornithology, with the EGI there as well as the BTO, and with David Lack, a world leader in ornithology, attracting many visitors and students. It was in this city that David met his future wife, Ann, who he married in 1967. She was secretary to the eminent Dutch ethologist Niko Tinbergen. It cannot have been an easy romance as David worked most evenings until nearly midnight and many weekends too!

Perhaps his important achievement was rescuing the valuable collection of eggs, skins and mounted birds amassed by the late Captain Vivian Hewitt. Hewitt was a multi-millionaire collector, living latterly as a tax exile in the Bahamas, but his collection was housed at his Anglesey home. Through one of his Welsh contacts, David got wind of the Hewitt collection which was in danger of being thrown over the nearest cliff. It had a large monetary value which would have been of interest to the Inland Revenue if declared. David contacted Jack Parry, the inheritor of the estate, who was keen to clear the house. The collection was signed over to David whilst the Trust dithered about whether to accept the eggs. He supervised the removal of the collection back to Tring in five furniture vans where it was stored prior to distribution and sale. The British Museum had first choice and they took all the South American eggs. The National Museums of Wales, Scotland and Northern

Ireland were also invited to choose eggs and specimens. Eventually, all the remaining material was sold to the American John du Pont of the Delaware Museum of Natural History for many thousands of pounds which funded work to renovate the recently acquired BTO HQ at Beech Grove in Tring.

Despite his outstanding service, in 1972 he was made redundant due to financial constraints. This resulted in another new direction; he became a full-time book dealer. For some years he had a book stand at ornithological conferences and was often offered lots of libraries, big and small. Many scarce books were bought in this way, the best copies of which often ended up in his own superb library rather than being sold. On his many visits to Scotland, he would enjoy taunting me with his latest finds, much to my chagrin as I had missed some particular gem.

The Scottish island that took David's attention for his entire life was St Kilda. In July 1956, he joined seven friends on a visit remembered in *Scottish Birds* (2017) 37(3): 241–243. When one of the party, Dougal Andrew, chartered the converted trawler Ocean Bounty, seven two-week voyages were made during the years 1989–96. The target was to visit and land on many of the remote islands off the Western Isles. David was present on all of them and was delighted to land on such places as Mingulay, the Flannans, Sula Sgeir, North Rona, the Shiants, Monachs and, of course, St Kilda. He avidly collected anything to do with the island. We often vied for the same books at sales and kept each other appraised of the latest publications. David was a long-standing member of the St Kilda Club and attended its Edinburgh meetings for nearly 40 years, right up to 2017, aged 91, still driving up in his campervan, sleeping and cooking *en route*.

David was generally serious in demeanour, but, once you got him talking, he regaled you with most interesting stories about past and present ornithologists and books. He had a quite remarkable memory and was an absolute mine of information about British ornithology of the past century and beyond. Very sadly, all this has been lost, as he never put all this knowledge down onto paper.

David died shortly after going into hospital on 12 April 2020, predeceased by Ann nine months earlier. They had no children.

David Clugston

Ian Sandison (1947–2020)

Towards the end of the 1960s, a smiling young birdwatcher came into my photographer's shop in Lerwick, asking me to second his application form to join the SOC. He was Ian Sandison, born at Weisdale, in the valley with the bird-rich Kergord plantations. He admitted he knew not a lot about birds, but said that his father's aviary of budgies had led to his attraction to the many wild birds in Shetland's most wooded area. Over the years, Ian was to find in the plantations some nests unusual for Shetland: Tree Sparrows, Fieldfare, Long-eared Owl, and nearby on the ground among heather, Woodpigeon. When Jackdaws bred in the area, they dropped twigs down Ian's chimney. He recalled the unsuccessful introduction of Pheasants to Kergord and also witnessed the demise of our county's resident Corn Buntings. One of his best 'local patch' finds was Purple Heron roosting in a tree.

As a sales rep for a local food company in pre-supermarket days, when there were many more shops, Ian travelled over much of Shetland. He enjoyed watching seabirds from ferries to the outer isles. When he was able to visit Fair Isle for the first time on a few days holiday, his life list expanded rapidly. I joined him on that trip, when among a fall of migrants there were some excellent birds: Common Rosefinch, Great Reed Warbler, Turtle Doves, Nightjar, Gull-billed Tern, Marsh Harrier, White-billed Diver, and Shetland's only record of a Steller's Eider.

Plate 176. Ian Sandison at Kergord, Shetland, late 1980s. © *Irene Sandison*

Ian was an enthusiastic member of the Shetland Bird Club since its inaugural meeting in 1973, and one of five from the club who went birding in autumn, for a few days, to Out Skerries - Shetland's most easterly little isles, closer to Norway than Aberdeen. It can be great for sea-watching and a migration hotspot in south-easterlies. During one early morning check, we glimpsed a small bird skulking in a boggy area; Ian in typical wind-up mode declared, "It's a frog!" I heard muttered cursing from one of our 'we-are-not-amused'. Ian's 'frog' transmogrified into a confiding Lanceolated Warbler! On a grassy slope nearby, where we'd seen a superb Hoopoe, Ian collected some mushrooms; "Ideal for brunch" he said. Back at our digs, chef Ian cooked them with bacon, eggs and beans, plus 'fire-extinguisher' - slices of a huge red salami sausage - all served with his usual smile.

In his younger days, Ian was a keen footballer and often climbed the Weisdale hills with his father to fly-fish their favourite lochs. He continued to walk a great deal, undertaking tricky beached bird surveys after the oil industry came to Shetland. Sadly, over the last 12 years, arthritis increasingly affected Ian's mobility, yet he still did wildfowl counts from his car. He was concerned by continual autumn/winter declines in duck species and numbers, and the spread of Greylags. But he did enjoy photographing Mute and Whooper Swan families, both species nesting here since the 1990s.

Some years ago, Ian, his wife Irene, daughter Paula and son Kevin moved to Lerwick, where their house overlooking the harbour gives views to northernmost Unst. Ian's window list included Hen Harrier, Ivory Gull, Red Grouse, Mountain Hare, Humpback and Killer Whales; on his bird table he saw Rose-coloured Starling - not bad for a Lerwick window. In the sitting room, Henry the pet Cockatiel often amused Ian with his mimicry. Henry whistles the tune of Shetland's rousing *Up-Helly-Aa Song* ('From grand old Viking centuries...'). He begins pitch-perfect - but his finale is as off-key as Les Dawson's piano!

Irene grew up in Tresta where her childhood home stands a mere stone's throw from the sea; here she and Ian used to watch a superb drake King Eider, formerly a regular visitor. The house borders on the garden where the much-twitched Tengmalm's Owl lingered in 2019. This magical rarity delighted Ian when he added it to his 400+ Shetland list, but sadly this was to be his last new bird. On 22 March 2020, he died suddenly, just after a pleasant Mother's Day family get-together. He was finally laid to rest in the Weisdale cemetery, back in the valley that had meant so much to such a warm, true friend.

Dennis Coutts

Catching the moment

Even considering the travel constraints during this year's breeding season, we have received interesting sightings from readers of birds displaying and mating. Of course, one can seldom predict when these behaviours will occur, but the majority of birders now carry either a phone or a camera as a matter of course and this makes it all the more possible for the following birdwatchers to share their sightings with us.

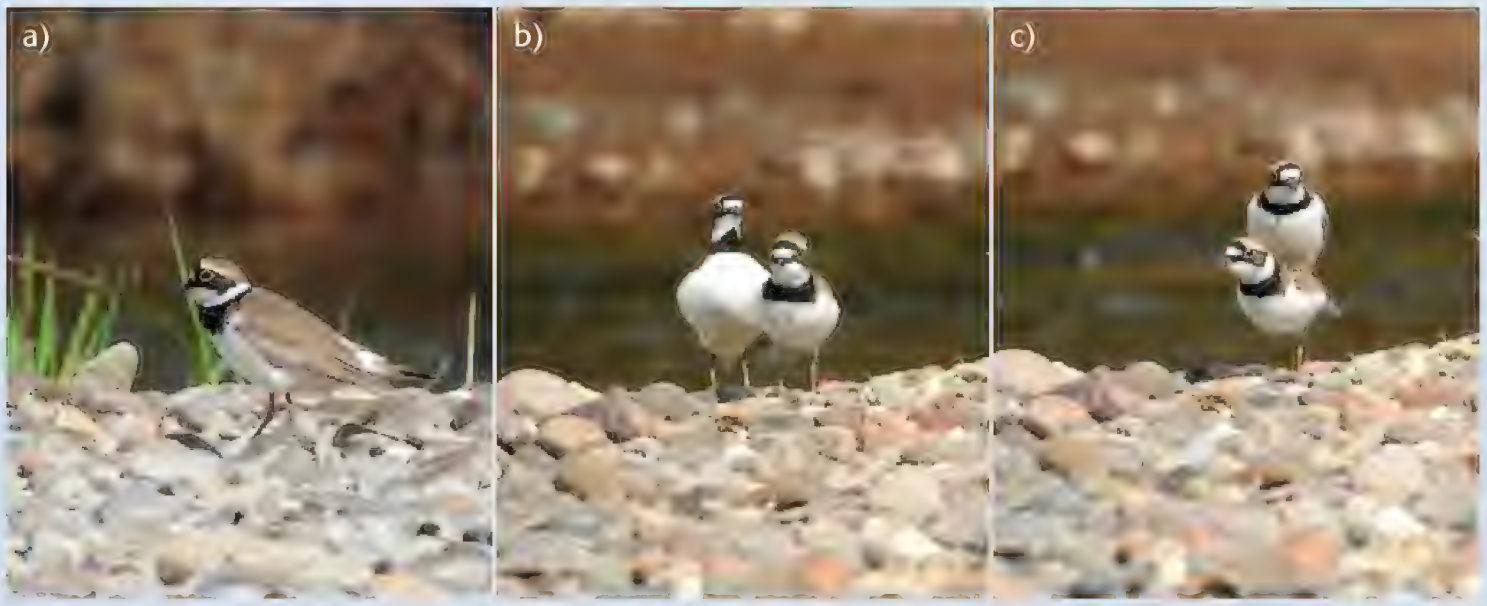


Plate 177. Little Ringed Plover **a.** on the shingle bank, **b.** displaying, **c.** mating, Upper Forth, April 2020. © *Gillian Thomson*

Little Ringed Plovers

Around 11:00 hrs on 27 April 2020, my wife and I were sitting on a river bank near Stirling (Upper Forth), watching Sand Martins that were flying into holes in the riverbank. It was by complete chance that we noticed two Little Ringed Plovers fly in to land on a low 10 m-long shingle bank (Plate 177a). They proceeded to feed together for several minutes, but then the male suddenly began to puff himself up and extend his neck significantly, changing the shape of the black neck band completely (Plate 177b). Although slightly behind the female, his display seemed obviously designed to impress her. He then approached the female from the side and mounted her and they mated for about 20 seconds (Plate 177c). The pair then separated and flew off together downstream. My wife, Gillian, already had her camera primed to photograph the Sand Martins but switched to watching the plovers realising from the change in the male's behaviour what was about to happen and was able to catch the act.

Gavin Thomson

Goldeneyes

Some of the most ritualised avian display and mating to be observed is among our waterbirds. At Baron's Haugh RSPB nature reserve, Motherwell (Clyde), one could settle down in a hide directly overlooking the water and try to forget the looming threat of a global pandemic, witnessing a common, yet dynamic, sequence of behaviour.

Plate 178. A troop of Goldeneyes, Baron's Haugh, Clyde, February 2020. © *John Agnew*

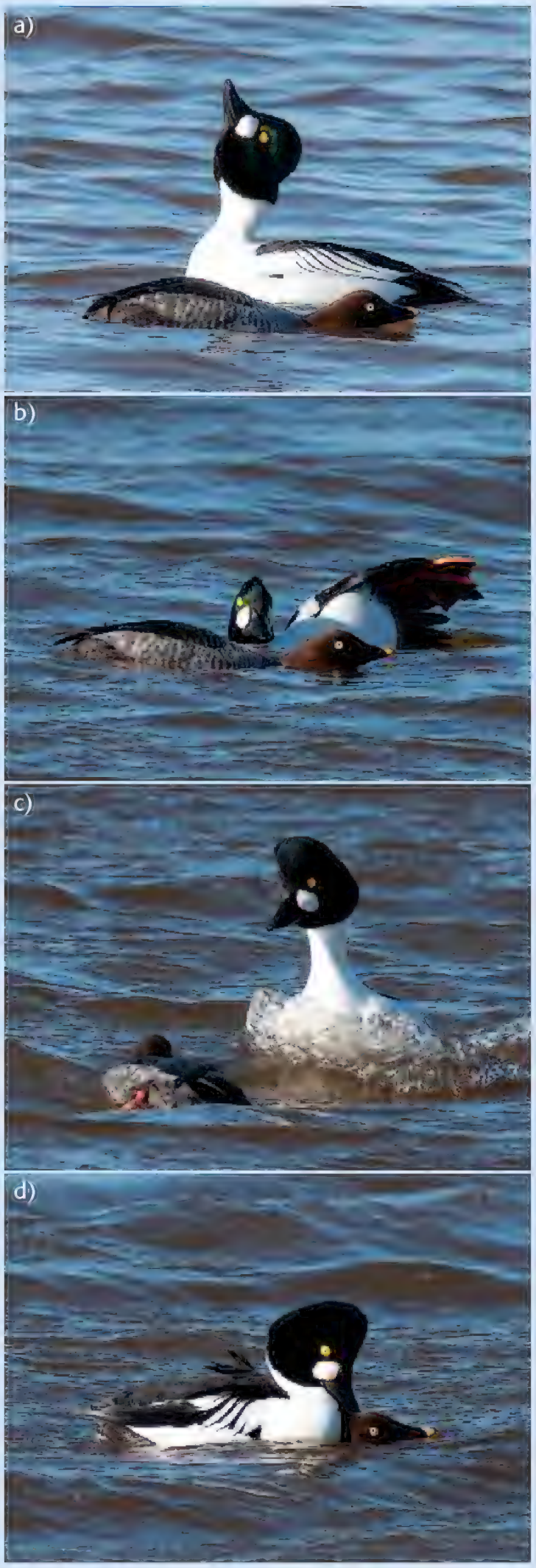


Plate 179. Goldeneye, **a.** neck-stretching male and a submissive female, **b.** male plumage display, **c.** the drake's approach, **d.** mating, Baron's Haugh, Clyde, February 2020. © *John Agnew*

I watched troops of Goldeneye as they swished and gyrated around, mostly drakes with a central female involved (Plate 178). She is hopefully impressed by all the drakes' head-bobbing movements - in full display the drake's head and neck are pulled far back to rest on the mantle plumage and he will often flick his feet on the release of this pose sending an arc of water over his body.

Once the female chooses a suitable mate they detach from the troop, both swimming with extended necks - she then holds his attention by lying low in the water (Plate 179a). The drake responds by rolling on to his side displaying more white plumage and his orange feet, splashing the water with his bill (Plate 179b). The drake with neck extended and head feathers puffed up, now surges towards the female with intent (Plate 179c). He grabs hold of the female by her neck feathers keeping her half-submerged and mounts, her head then barely showing above the surface (Plate 179d).

After all that, he never writes or phones and has nothing to do with child support! - well of course, that's just nature! But for me on that day, a special event to witness.

John Agnew

Goldcrests

I love photographing the birds and wildlife of the Avon Valley near my hometown of Larkhall (Clyde) and on 24 April 2020, as the river was very low, I followed its course under the steep slopes. I came across the Goldcrest nest by accident, catching a glimpse of the bird with nesting material. From a distance, I took a short video of it building the nest which was hidden among the thick moss and ivy on a large dead tree which leaned over towards the river (Plate 180a). The nest was at a height of c.3 m, while surrounding willow and birch produced a canopy over the site. A small, bare branch extended directly towards the nest providing access for the approaching Goldcrest.

My next visit was on 7 May 2020. I had just arrived when the female landed on this branch with what I thought was more nest-lining material, short strands, perhaps hairs - maybe

Plate 180. Goldcrest, **a.** working at the nest, **b.** male approaching female, **c.** mating, April–May 2020. © *Walter Smith*

that was a sign she was ready for the male (Plate 180b)? She looked agitated for a few seconds then began quivering her wings as the male arrived beside her, his fantastic crest showing to its full extent, a beautiful bright orange colour! With wings beating rapidly he mounted the female. All this took place in seconds and I noticed that as he left the female, his crest gradually reduced. A very exciting sequence to witness (Plate 180c)!

On 20 May 2020, I returned to the nest site. The birds visited for very short spells with the female adding more feathers and down to the nest. She would enter one side of the nest and exit the other like a tunnel. I think that this is maybe a second nest as it has been nearly one month since the nest building video was taken. However, the male was usually close by, so perhaps not still involved with a first brood somewhere else? Although the photos were hurried, I was so glad I managed to record this wonderful sight.

Walter Smith

For some however, the lockdown has meant having to rely on archive footage using digitalised slides to recall special sightings of birds' display and mating. The following account goes way back to 1979, but the recollection is as vivid now as the actual happenings then.

Dippers

The plan was for us to photograph Dippers we had seen on the River Annan, near Ecclefechan (Dumfries & Galloway). My companion chose a spot on the bank opposite a suitably dropping-covered perching stone and I carefully camouflaged over his hiding position with vegetation. For myself, further along the bank, an old Jamie Woods hide went over my head and I snuggled down with my faithful Sigma 500 mm mirror lens. I had barely settled and switched on when I was startled to see a Dipper directly in front of me on a submerged log. The bird appeared agitated and then began quivering its wings (Plate 181a). After a moment, it leant forward, raising the tail and looking upwards (Plate 181b). The reason became clear when the male Dipper appeared hovering from above and dropped down on to the female's back to mate - no pre-nuptial plumage show or other display - straight down, mission accomplished (Plate 181c)! The whole episode was over in a flash and I hoped fervently that I'd captured something of the action, as unlike today's immediate results, there was always a wait for the film to be developed. My companion had seen no activity at all from his hideout but did his best to show enthusiasm for my success. A moment caught and remembered.

Jimmy Maxwell

Plate 181. Dipper, **a.** female wing quivering, **b.** ready to receive the male, **c.** mating , River Annan, Dumfries & Galloway, May 1979. © *Jimmy Maxwell*

Plate 182. Corncrake, Colonsay, Argyll, 2 June 2012. © *Adam Summerhayes*

Why did the Corncrake cross the road?

Well, probably for the same reason as that well-known chicken, but the Corncrakes of Colonsay still have some explaining to do...

The Corncrake has a reputation for being invisible — possibly even mythical — perhaps a creature that exists only in the form of sound waves. It is not uncommon to see three pairs of binoculars trained on a patch of 6-inch-long grass, no more than a couple of feet square, that our ears are clearly telling us contains a Corncrake. After 20 minutes or so, the binoculars are lowered and the disconsolate birdwatchers give up and wander away without seeing anything. Even more frustrating are the times when a bird that is only 1 m from you manages to move to another patch, a few more feet away, under constant vigilant scrutiny and without even being glimpsed.

The birds make no secret of their presence — at least vocally — advertising themselves to their potential mates, competing for territory and making it extremely clear that they are around. For those interested in seeing them, it is disconcerting to find that it is possible to stand and hear four or five invisible birds calling at once, all within 7–10 m. Their harsh rasping cries carry for a long way - particularly through the twilight hours of a Hebridean early summer night, when they seem curiously magnified.

If you are within a few feet of a bird, especially at night, it almost feels as if the ground vibrates because of the power of the noise. A discerning visitor can locate the individual patches of several different birds and rely on hearing them from the same place, night after night. In fact, if you trust your footing well enough, it is possible to make a fair stab at navigating with your eyes closed using their calls as a guide. I tried it on Colonsay, between two crofts in the little settlement of Kilchattan, and was doing quite well until I became unduly involved with some nettles.

During a period of unusually warm nights on the island, the cry of the Corncrakes through the open windows created an almost constant carpet of sound as the call of one bird melded into the cry of another; so loudly, in fact, that sleep became difficult and, if only momentarily, it was possible to become less enthusiastic about the creature. They are also vocal through large parts of the day, though never with quite the persistence of their night-time endeavours. So, why are they so hard to see? Paradoxically, it was actually watching one that began to provide the answer.

Plate 183. Corncrake (early morning bird), Colonsay, Argyll, 31 May 2012. © *Adam Summerhayes*

I was awoken one early morning by the bed vibrating, or so it seemed, with the cry of a bird. Saying to my wife "the thing is obviously desperate to have its photo taken," I got out of bed and walked past the glass front door of the croft we were hiring, to fetch my camera. I was astonished to see a Corncrake, probably 4 m away, at the other side of the small, enclosed garden. It moved from behind a post into a patch of not particularly dense vegetation.

I collected my camera, fitted the 500 mm lens, put it on a monopod, crept outside and set-up some 2–3 m from the patch the bird was hiding in. It appeared, and I took a number of shots, with the Corncrake's eye squarely in the middle of my focus point and a feeling of some amazement and pleasure. The bird seemed aware of my presence and was moving very stealthily, but for some reason did not seem to realise that it was relatively visible. The opportunity was obviously very good for photography; I checked the histogram on the back of my camera to ensure that I was not making any mistakes with exposure and was slightly horrified to discover that I did not have a memory card installed. I had been downloading the previous day's photos late at night and had not expected such an early appointment with my camera.

I went back inside, installed a memory card and returned expecting disappointment. But the Corncrake was still there. It became apparent why they can be so hard to see. Had I not known where it was, I don't think I would have spotted it again and, even as it moved, I don't think that my perceptions would have been alerted. With an almost clown-like parody of stealth it eased itself through the grass; each footfall in ultra-slow motion.

I did get some good shots, but I don't think any were quite as good as those without the memory card ... the one that got away... In the moments when it paused amongst the grass it almost immediately became invisible.

Plate 184 a–b. Corncrake (hidden in plain view), Colonsay, Argyll, 31 May 2012. © *Adam Summerhayes*

After this experience, I got my eye in for Corncrakes and, after a number of hours, watching the spots from which they were invisibly calling, I came to understand that they have another behaviour, as well as this extreme, slow-motion stealth-mode that renders them invisible.

I had a fleeting glimpse of the head of a calling Corncrake, some 2 m from me, and kept my eye on the spot. It would have been easy to miss amongst the waving grasses, but what I saw was a sudden, high speed, snaking run through the vegetation, visible only because of the disturbance of the passage through the grasses. The speed was almost rat like - and in fact, in a brief flash of visibility, the bird would have passed for a rat. Seconds later, it called again from its new position, then shot off through the grass again at an amazing speed, snaking for another 3 m before calling again. Had I not seen his first mad dash begin, from where I had his position pinned down to within an inch, I would not have identified this movement as the bird. But, over succeeding days, I was to witness it many times - witness the movement that is, rarely the bird itself.

So, if they are so keen on secrecy, and are so good at it, why *did* the Corncrake cross the road - and so often?

Plate 185. Corncrake, Colonsay, Argyll, 4 June 2012. © *Adam Summerhayes*

A small number of Corncrakes in the Kilchattan area are taking unusual pleasure in making public appearances: in fact, positively disporting themselves, by Corncrake standards. Not only have they been calling from more visible positions, but also they have been slower to move into cover. Are these young and inexperienced birds? Is it something to do with the two weeks of glowing heat they had experienced? I don't know, but over a period of ten days there was only one on which I did not see a Corncrake - often close enough to photograph.

Plate 186. Corncrake (the road crosser), Colonsay, Argyll, 8 June 2012. © *Adam Summerhayes*

Plate 187. Corncrake, Colonsay, Argyll, 4 June 2012. © *Adam Summerhayes*

And, I almost feel as if I struck up a relationship with one particular bird. I came to realise that if I heard him call from a particular spot to the right of the road it would only be a matter of a few minutes before he would make his decision to cross. It still used the characteristic dash and stop movement with which I had become familiar: leaning forward with head to the ground for a sprint, standing for a split second and then off again at immense speed.

Admittedly, this more public image that Corncrakes seem to be keen to present has to be seen relatively. Friends who were with me on the island spent the same number of days with their eyes peeled for Corncrakes and saw, well - perhaps it's kinder not to say...

I like to think that this higher level of visibility might mean that the Corncrakes were beginning to show a reciprocal degree of inquisitiveness about our activities. I particularly enjoyed the moment when I spotted the road crosser investigating a bicycle kiddi-trailer.

My daughter thinks differently, though, after seeing my photographs - particularly some of this same bird running the long way round over a sheep-nibbled field with no possibility of cover. In her opinion, that bird is making a bid for celebrity, in keeping with the apparent urge of everyone in modern society to be on X-factor.

Adam Summerhayes, Carsington, Derbyshire.
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Nest box wars

I read with interest the article 'Best Sparrows Hotel' in the June 2020 edition of *Scottish Birds*. We had an episode of nest box drama in the spring in the Borders which led to a Covid lockdown construction project (Plate 188).

A male House Sparrow had sat on the roof of a nest box at the front of our house on and off for much of the winter. I can see the box when sitting at our dining table at breakfast time. On 18 March 2020, I noticed a Tree Sparrow looking out of the box, the House Sparrow was sitting on the roof of the box at the time. The Tree Sparrow introduced its partner and they were both visiting the box. One of the pair was bold enough to ignore the attentions of the larger House Sparrow and just dart into the box and then look out. The House Sparrow, sitting on the roof of the box, would just peer over the edge and observe. There was no aggression.

The Tree Sparrows started taking in nest material (Plate 189). This was finally too much for the resident House Sparrow and when its sparrow cousins were away it started pulling their nest material out! Eventually, I witnessed a fight, a tussle that ended up on the ground. I'm not sure which of the two species initiated it but it seemed to be the last episode in the saga. The House Sparrow returned to sitting on the roof, some occasional nest building and a visiting female (Plate 190). The Tree Sparrows were not seen again near this box.

Plate 188. The resident House Sparrow inspects the visitor, Biggar, Borders, March 2020. © *John Hart*

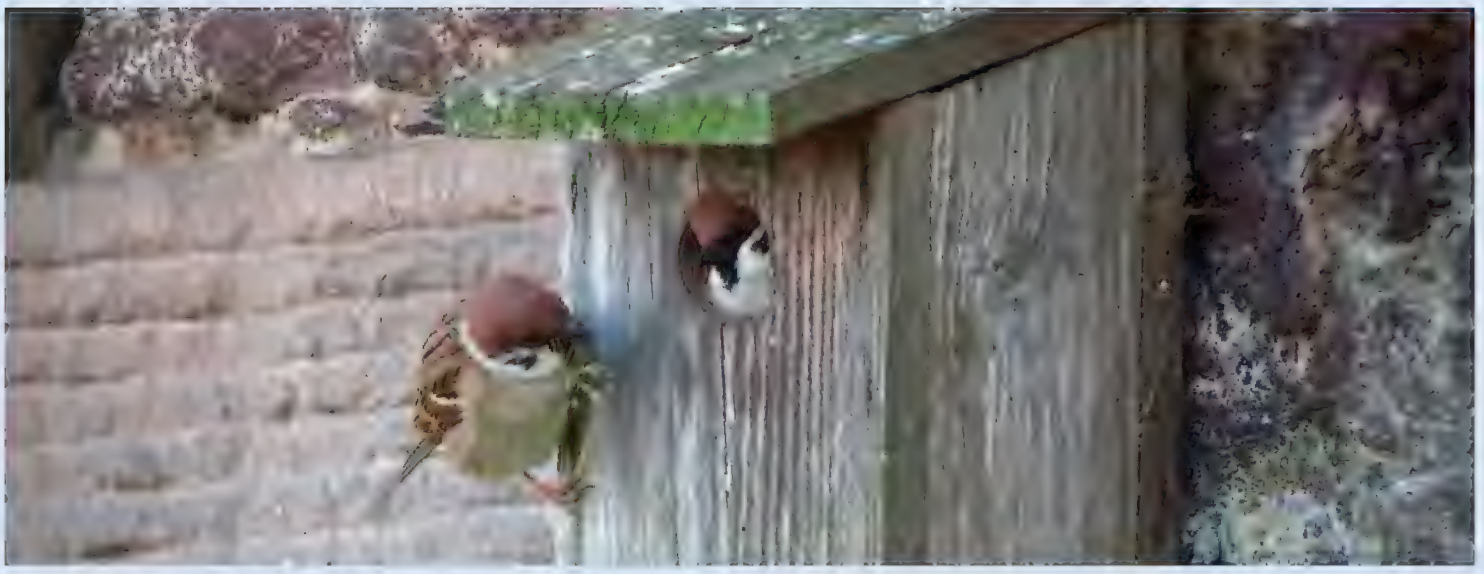

Plate 189. Tree Sparrows with nesting material, Biggar, Borders, March 2020. © *John Hart*

We already have three dedicated Tree Sparrow boxes on another wall of the house - all occupied at the time. They have a slightly smaller entrance hole (28 mm) to prevent occupation by House Sparrows. As a result of the conflict I decided to provide more Tree Sparrow accommodation. I added four new boxes in the early days of Covid lockdown and they all appeared to be used almost immediately. It would appear that the supply of dedicated Tree Sparrow boxes was limiting and hopefully the new provision will boost our population. Another wildlife positive from the Coronavirus restrictions!

John Hart, The Dairy, Candybank Steading, Elsrickle, by Biggar ML12 6QY.
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Plate 190. The resident takes over nest-building, Biggar, Borders, March 2020. © *John Hart*

Pheasant killing Wood Mouse

On 12 June 2020 at Innerleithen, Borders, several Pheasants had gathered as usual at the bird feeder in our garden to take advantage of seed fallen from the seed dispenser. A cock bird and two hens were at the feeder when one of the hen birds dashed about eight feet into the border. She came out with a young but active Wood Mouse in her beak. She bashed the mouse on the path and then spent a few minutes positioning the dead animal in her beak. The last I saw of the mouse was its tail disappearing down the Pheasant's throat. I was surprised by the speed of capture and dispatch, particularly the positioning of the body before swallowing. It was carried out with precision and I wondered if it might be regular behaviour. The feeding Pheasants take no notice of the Dunnocks, tits and Chaffinches that feed on the ground with them.

Roger Wheater, Innerleithen, Peeblesshire
Email: rogerwheater@gmail.com

Pheasants have been recorded taking small animals. BWP mentions voles and shrews but not Wood Mice. Ornamental Pheasants have been recorded killing mice in aviaries. However, a similar incident to the above was recorded in the March 2017 issue of Scottish Birds.

Plate 191. White-winged Scoter (with Velvet Scoters), Musselburgh, Lothian, 24 April 2020. © *Ian Andrews*

Scoters off Musselburgh again

A few years ago, I wrote about a close encounter my wife and I had with some Velvet Scoters at Musselburgh, Lothian (Andrews & Andrews 2014). The scoters usually stay some distance offshore, so if there is any chance of a close photograph, I take it.

On 24 April 2020, such an opportunity presented itself. After spending much of the winter distantly off Fisherrow rather than the off the seawall, in late April the scoters moved slightly further east and began to show well as they chased in display. Mid-morning, I saw a flock of 12 birds approaching from the west; they were close in and flying fast. I aimed the camera and kept my finger on the shutter as the flock got ever close. I took 55 frames (at ten frame/second), so the whole flyby probably took six seconds! I took a breath and looked at the back of the camera. Unsurprising, they weren't all sharp - I was panning very fast. However, I soon spotted the tell-tale bill of the White-winged Scoter. Bingo!

The bill of the White-winged Scoter has a more restricted pinkish patch rather than the more obvious orange of the Velvet Scoter. There is an obvious nasal bump and you can see through the large nostril. The white eye spot is more extensive, but surprisingly it doesn't look as obvious as it does in the distance with the sun shining on it.

The flock swung round and landed immediately offshore from me. They stayed there for six minutes, displaying and diving. The White-winged Scoter drifted away at the back of the flock, occasionally showing the characteristic 45-degree pose that can be spotted a mile off.

References

Andrews, I. & Andrews, J. 2014. Field note: a close encounter with Velvet Scoters. *Scottish Birds* 34(2): 168–170.

Ian J. Andrews, Musselburgh, East Lothian
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BOOK REVIEWS

Wintering - a season with geese. Stephen Rutt, 2019. Elliott and Thompson Limited, ISBN 978-1-78396-454-3, hardback, 197 pages, £12.99.

Stephen Rutt's second book of 2019 is one with which I have a great personal affinity. Like me, he has made Dumfries & Galloway his home — he in autumn 2018, me in autumn 1996 — and he quickly came to appreciate this wonderful corner of Scotland. The book opens as he, his partner and their cat arrive in Dumfries in an autumn gale to start a new chapter in their lives. They encounter a landscape which is both familiar and unfamiliar to the Essex they had left behind with the flat of the muds and merse of the Solway in one direction, but hills, conifer plantations and wind turbines in the other. The weather that autumn was dreich (recently voted the most popular Scots word) and it provides something of a theme throughout the first few months of his new life in southern Scotland. Very soon after arrival he sees and hears his first skein of geese over the town, Pink-feet in this instance, and he has a new totem (as he describes it) to his birding year and a welcome counterpoint to the weather.

Wintering is a short book with just six chapters, each devoted to one species of goose, beautifully written in Stephen Rutt's elegant prose. He considers only our regular native winter visitors so Canada geese and their variants, and species such as the Red-breasted Goose barely get a mention. He narrates the ups and downs of the populations of Pink-footed, Barnacle, Brent, Bean, Greylag and White-fronted Geese across the UK. He reminisces about personal encounters with geese and revisits old haunts with his birding father. He investigates the place of geese in our history and culture and provides new insights into the lives of each species.

I enjoyed this book immensely and recommend it both to anyone who already has an interest in these big, noisy, social visitors and to folk who want to learn more about them.

Andrew Bielinski

Avifaunas, Atlases & Authors: a personal view of local ornithology in the United Kingdom, from the earliest times to 2019. David K. Ballance, 2020. Calluna Books, Wareham, Dorset. Phone 01929 552560. ISBN 978-0-9933477-5-7, Spiral bound, 314 pages, £25.00, plus £3.00 p&p.

This volume forms a sequel to the author's earlier publications: *Birds in Counties* (2000) and three *Supplements* (2002–2015). It differs in more than one way - containing an account of the development of local ornithology within current and past recording areas and most interestingly biographical details of the authors. These are often quite humorous and with information not easily found elsewhere. A critical discussion of county atlases is also included. The bibliography of local books, pamphlets and listings of national and local journals have been updated, but is nowhere near as comprehensive as his earlier works (see review: Clugston, D. in *Scottish Bird News* 62: 2001 p.15). The text is liberally illustrated with photographs of people and places. An account and listings of school natural history societies is a new and welcome addition. This bibliography has involved a monumental amount of work and research and I highly recommend it for would-be avifauna or county atlas compilers and collectors of these books.

David Clugston

Also received

The following works by Adam Watson:

- Observations of Golden Eagles in Scotland
- Points, sets and man
- Mammals in north-east Highlands
- Ugly Deeside
- Place name discoveries on Upper Deeside and the far Highlands (with Ian Murray)
- Essays on lone trips, mountain-craft and other hill topics
- More days from a hill diary, 1951–80
- Vehicle hill tracks in northern Scotland
- The place names of Upper Deeside
- Plants in north-east Highlands
- Observations on Golden Eagles in Scotland
- Place names in much of north-east Scotland
- Cool Britannia (with Iain Cameron)

RINGERS' ROUNDUP

This edition is a summary of the activities, results and recoveries from the 'southern' Scotland ringing groups, including Argyll, Borders, Clyde, Lothian and North Solway.

Since our last report in September 2017, all the groups have been busy with both established and new projects, these are generating large amounts of information which I've summarised here, selecting the most interesting results and recoveries.

For Clyde, our newest project has been the ringing of waders, gulls and terns on the Inner Forth at Grangemouth and Blackness Castle in the Upper Forth recording area. The drive behind this is to look at what species use the Forth/Clyde flyway to short-cut across Scotland on migration. Due to earlier and ongoing ringing studies, as well as observations, some species are known to use this route especially in the autumn (e.g. Sandwich Tern, Gannet, Shag and Lesser Black-backed Gull). We hope to shed light onto other species that may also use this route.

In July 2018, while catching waders, we were aware of many terns using the Blackness site, so after taking advice (thanks to Ewan Weston and Derek Robertson) on how to catch terns, we gave it a go. Our first trip out was very successful - the first bird caught being an adult Sandwich Tern with a colour ring from Coquet Island, Northumberland! More was to come in August 2018, with Common Tern controls from Dublin, Norway and one with a Johannesburg ring, all on the same night!

Since then, things have progressed; we now have colour ringing projects for Common and Arctic Terns (2019), and these have also proved successful, most importantly we had a Common Tern seen in Merseyside shortly after ringing, as well as Sandwich Terns, both Common and Black-headed Gulls moving to the west of Scotland and Ireland. Follow-on reports of Common Terns have included two at sea off the Gambian coast in November (see Plates 192–193), thanks to the dedicated work at the Kartong Bird Observatory in The Gambia. We also had one in Namibia in February, and one back at Port Seton (Lothian) in July 2020, so not a bad start from 82 colour-ringed birds.

Unusual terns handled include our first ever Roseate, a juvenile, ringed on Coquet in 2018 and the hybrid Roseate x Common Tern from the Isle of May in 2019. This immediately raised the question of "do Roseate Terns also use this flyway into the Clyde Estuary on migration?"

The 'Coquet' connection

From the very first full-grown tern we caught, there has been a growing awareness of the connection between the Inner Firth of Forth, Coquet Island, Northumberland and the Forth/Clyde Flyway. We have so far had seven colour ring or metal only recoveries to and from Coquet involving Sandwich Tern (5), Common Tern (1) and Black-headed Gull (1).

Plate 192. M12 Common Tern, Gambia. © *Kebba Sosseh*

Plate 193. M42 Common Tern, Gambia. © *Kebba Sosseh*

I have listed examples in detail below, but the overall pattern so far is of birds of various species leaving Coquet in late July/August and moving north, not just into the Forth but also further north as far as Aberdeenshire/Morayshire, and then back down into the inner Forth.

From here birds appear to pass over the country to the west coast and continue on migration, both west to Ireland and south to the north-west coast of England and to Wales. By September, the terns have reached the coasts of Senegal and The Gambia, then by November the coasts of Namibia and South Africa for the (our) winter.

As with many ringing projects, our ideas of what was happening were trashed by our very first colour-ring report from a Sandwich Tern chick, ringed at Hunterston in Ayrshire. Having expected 'local' terns to remain on the west side and for migrant terns in the late summer to come across from the Forth, Sandwich Tern chick 'E13' proved us, and many others, wrong by turning up at Port Seton, Lothian shortly after fledging! Then, just to confuse us further, he/she came back over to the west in September.

This project will continue this summer, please keep a look out for, and report, any colour-ringed birds you see. I have also started to make overnight recordings ('Noc-mig' to use the current jargon) this year as I live below the flyway but those results will have to wait for now...

2018–19 Clyde Ringing Group ringing totals

The last two years have been particularly productive for Clyde, with record numbers ringed - 21,307 birds - and a great variety as well, 132 species and one hybrid. Amongst this, there are a few stand-out totals of note: 2018 saw a bumper breeding season for warblers with a Willow Warbler annual total of 1,150 individuals, normally 400–500 a year. The impressive effort on Arran from Terry and Chris Southall and Alex Penn, out 'dazzling', has also produced 128 Woodcock, 20 Golden Plover as well as a Greenland White-fronted Goose! Other new species added during more typical daylight hours there were Water Pipit and Snow Bunting, with record catches of Teal (44), Red-breasted Merganser (7) and adult Raven (7) - the latter requiring a new pack of plasters daily!

However, the most exciting new project on Arran is the collaboration with BTO Scotland, satellite tagging Short-eared Owls. The summary below is from John Calladine:

- 2019 cohort. Two travelled through France, one dying at the side of a motorway in a presumed collision with a vehicle, the other carrying on through Spain, Morocco and on to Western Sahara (just south of the Tropic of Cancer and close to the border with Mauritania) where she presumably died in a dry river bed in the desert after a journey of 4,100 km (the tag continues to transmit from there to this day!)
- Three new birds were tagged on Arran in January and February 2020 including two males (only the second and third males we have tagged). Both males have since bred on Arran. One bird made a 550 km week-long round trip to Wester Ross at the end of May but is now back on Arran. The other continues to make regular commutes across the 6 km of open water between Arran and Kintyre, sometimes making return trips overnight (to date he has made 47 crossings and counting!). The female tagged on Arran in February left the island for Co. Durham (230 km distant) where her behaviour strongly suggests she bred. We last heard from her on 1 June (this period appears to be a key time for mortality for Short-eared Owls).

Plate 194. Water Pipit, Arran, Clyde Islands. © *Alex Penn*

Forth/Clyde Flyway recoveries

Sandwich Tern

E12/DD34666 chick 18/06/2016 Hunterston, Ayrshire
RR 01/09/2016 Southport, Merseyside
RR 08/07/2018 Camperdun, THE NETHERLANDS
RR 07/09/2018 Barassie, Ayrshire
RR 19.06–24/08/2019 Coquet Island, Northumberland (seen courting).
RR 07–11/09/2019 Port Seton, Lothian

E13/DD34667 chick 18/06/2016 Hunterston, Ayrshire
RR 31/07/2016 Port Seton, Lothian
RR 07/09/2016 Bishopburn, Loch Ryan, D&G
RR 20/09/2018 Kartong Bird Observatory, THE GAMBIA

E25/DD34679 chick 17/06/2017 Hunterston
RR 09/06/2019 Brownsea Island, Dorset
RR 13/07/2019 Port Seton, Lothian
RR 24/11/2019 Strand, Cape Town, SOUTH AFRICA

E49/DD34609 Adult 08/08/2018 Blackness Castle, Upper Forth
RR 21/08/2018 Bishop Burn, Loch Ryan, D&G
RR 19.04–23/07/2019 Coquet Island (breeding)
RR 18/08/2019 Peterhead Bay, Aberdeenshire

E54/DD34616 Juv 21/08/2018 Blackness Castle
RR 11/09/2018 Whitehead, Co. Antrim, N. Ireland

E55/DD34618 Adult 25/08/2018 Blackness
RR 18/08/2019 Troon, Ayrshire

E59/DD61358 Juv 24/08/2011 Seal Sands, Teesmouth
R=adult 11/08/2019 Blackness (colour ring added)
RR 21.08–11/09/2019 Seton Sands, Lothian
RR 21/04/2020 Coquet Island

Common Tern

M70/ST65588 Adult 24/08/2019 Blackness
RR 10/09/2019 Seaforth, Merseyside

Black-headed Gull

2CX5/EZ02607 Juv 04/09/2018 Blackness
RR 22/09/2019 Bishop Burn, Loch Ryan, D&G
RR 04/03/2020 Bishop Burn, Loch Ryan, D&G

2CY1/EZ02861 Juv 16/09/2018 Blackness
RR 11/03/2019 Cork City, Cork, IRELAND
RR 14/06/2019 Loch Morlich, Aviemore, Highland
RR 10/10/2019 Townhill Loch, Dunfermline, Fife

2CY4/EZ33209 Juv 02/10/2018 Blackness
RR 17/10/2018 Hound Point, Lothian
RR 23.01–03/02/2019 Lanark Loch, Clyde
RR 28/01/2020 Lanark Loch

2CY7/EZ33233 Juv 02/10/2018 Blackness
RR 06/10/2019 Dunoon, Argyll
RR 28/06/2020 Heritage Loch, East Kilbride, Clyde

2EH0/EZ02678 Adult 05/01/2019 Blackness
RR 03/02/2019 Strathclyde CP, Clyde

Common Gull

2J08/EZ02908 Juv 16/09/2018 Blackness
RR 10/11/2018 Kinnegar, Holywood, Co. Down, N. Ireland

Other Clyde Ring Group recoveries

Fulmar

FV02579 Adult 09/07/1977 Isle of Canna, Highland
Ad Br. 26/06/2019 Island of Sanda, Kintyre 207 km 15,327 days. A new UK longevity record.

Storm Petrel

2448881 Ad 25/07/1997 Sanda, Kintyre, Argyll
R Ad. 28/06/2019 Treshnish Isles 146 km 8,008 days

Gannet

1300825 chick 29/06/1990 Ailsa Craig, Ayrshire
Dead 07/06/2020. Stranhill, Sligo, IRELAND 249 km 10,936 days

Roseate Tern

AL/DT chick B, box 22, 22/07/2018 (fledging date) Coquet Island, Northumbria
R Juv 21/08/2018 Blackness Castle, Upper Forth (see Plate 195)
Other ringed juvenile Roseate Terns have been recorded in the Forth, but this is the first one ever caught (C. Redfern).

Plate 195. Juvenile Roseate Tern, Blackness Castle, Upper Forth. © *Liam Reid*

Hybrid Roseate x Common Tern

ST83288 chick 21/07/2019 Isle of May, Fife
R 24/08/2019 Blackness Castle

Teal

EZ82102 3M 24/11/2018 Sliddery, Isle of Arran
Shot dead 27/01/2019 Wexford Harbour, IRELAND, 357 km 64 days.

Buzzard

GH19745 chick 03/06/1990 Abington, Clyde
Fresh dead 18/03/2019 Peebles, Borders, 35 km 10,515 days.

Sanderling

NS60508 Adult 10/05/2017 Sliddery, Isle of Arran
R 12/08/2018 Heacham, Norfolk 470 km 459 days. This was the first Sanderling ringed by CRG.

Oystercatcher

05A/FH38324 Ad. 12/03/2018 Sliddery, Isle of Arran
RR 09/05/2018 Hofn, ICELAND. Our first long-distance report from the new colour-ringing project.

Common Gull
2A88/EY20901 chick 24/06/2014 Elvanfoot, Clyde
RR 03/11/2018 Whitehead, Belfast, N. Ireland 150 km 1,593 days

Black-headed Gull
2BR0/EK61427 chick 19/06/2018 Elvanfoot, Clyde
RR 16–31/07/2018 Lanark Loch, Clyde
RR 11/02/2019 Aterro landfill, Loule, Algarve, PORTUGAL
RR 30/04/2019 Cardiff Bay, Cardiff, Wales
RR 30/11/2019 Pinto Landfill, Madrid, SPAIN.

This is an exceptional set of reports. A search through BTO files suggests that this is only the third Scottish-ringed chick ever found in Portugal, the last two were in the winter of 1962/63. To be seen on the way north and then back the following winter in Spain is incredible and clearly shows the value in the additional colour ring.

Swallow
X070606 chick 06/06/2010 Whinpark Fm., Carluke, Clyde
R=ad. 16/04/2012 Canton Magistris, Alps, ITALY, 1,388 km 680 days. Reported in 2019.

Fieldfare
LK14794 3M 27/10/2018 Kinneil Lagoon, Upper Forth
R=4 23/05/2019 RonVikjordene, Bodo, Nordland, NORWAY, 1,569 km 208 days. A cracker of a recovery; this was from the first Fieldfares ringed at this site.

Blackcap
AFE1120 3M 25/08/2019 Kinneil Lagoon, Upper Forth
R 08/09/2019 Plaisance, Charene-Maritime, FRANCE, 1,137 km 14 days. We also had one controlled in Dorset on 28/09/19 from Kinneil.

Brambling
EH88681 3M 08/10/2015 Innbygda, Hedmark, NORWAY
R 6M 16/01/2018 Manse, Salsburgh, Clyde 1113 km 831 days

Siskin
S032387 6F 23/03/2017 Manse, Salsburgh, Clyde
R 14/03/2018 Houwaart, Brabant, BELGIUM, 794 km 356 days. Our only overseas recovery in two years.

Selected recoveries from the Lothian and Borders Ringing Groups (Tom Dougall)

Borders

Storm Petrel
2661109 FG 30/07/2011 Eyemouth, Borders
Controlled Ad 30/07/2019 Isle of May, Fife 46 km

2686944 Ad, F 24/07/2019 Isle of May, Fife
Controlled Ad 02/08/2019 Eyemouth, Borders 46 km

The two Storm Petrels featured are of interest since they indicate that there might well be a breeding colony in the Forth/Berwickshire coast area.

Mute Swan
ZY8642 N 24/07/2015 Sunderland, Tyne & Wear
Ring read Imm 13/10/2019 Gunknowe Loch, Tweedbank, Borders 117 km

ZY8684 N 13/08/2015 Brasside Pond, Durham
Ring read Imm 28/08/2019 Gunknowe Loch, Tweedbank, Borders 119 km

These continue a pattern of movement of birds from north-east England into the central Borders.

Peregrine
GC74849 N, F 03/06/2017 near Enniskerry, Co. Wicklow, IRELAND
Controlled Imm, F 26/04/2019 Borders 323 km. An unusual record of an Irish-hatched bird moving to Scotland.

Oystercatcher
FH77518 N 08/06/2013 Glentress, Moorfoot Hills, Borders
Found dead Ad 20/06/2020 Salters Gate, Durham 124 km

FH87057 N 09/06/2019 Ladyside, Moorfoot Hills
Freshly dead Imm 15/03/2020 West Kirby, Merseyside 266 km

FH77518 may have been on breeding grounds when found dead; while FH87057 is fairly typical, being reported from a wintering area to the south and west of the natal area.

Lesser Black-backed Gull
FF00968 (Helsinki) Juv 17/07/2018 Pirkanmaa, FINLAND
Colour-ring read in field Imm 06/02/2019 Gunknowe Loch, Tweedbank 1,700 km. This is of particular interest since it had been ringed as a 'Baltic Gull' *L. f. fuscus* chick, and should have been wintering in east Africa or migrating through the eastern Mediterranean/Middle East, not visiting the central Borders.

Black-headed Gull
EG17546 N 11/06/2000 Garvald, Dolphinton, Clyde
Found dead near wind turbine Ad 01/06/2019 Carcant Wetlands, Moorfoot Hills, Borders 27 km. This represents a colony move, although it is not known how long the bird had been nesting at the Borders colony.

Tawny Owl
GV23322 Ad 28/08/2018 in care, Berwick-upon-Tweed, Borders
Entered building, released alive Ad 19/08/2019 Coldingham, Borders 16 km. It was good to see that the Tawny Owl, which had been ringed at a recuperation centre, had survived in the wild for about a year after release, although its subsequent finding does suggest it possesses a bit of a 'death wish'.

Blackcap
7396221 (Paris) FG M 12/10/2019 Port-Jerome-sur-Seine, Seine-Maritime, FRANCE
Controlled Imm M 05/11/2019 Peebles, Borders 726 km
An interesting northwards movement in autumn.

Blue Tit
ACA6269 Juv 26/07/2019 Garvald, Moorfoot Hills, Borders
Freshly dead Imm 24/04/2020 Colinton, Edinburgh 20 km
A Blue Tit ringed by Tom Dougall in the Borders, which was found near his home in Edinburgh, copying the feat of a Blackbird in 2019!

Goldfinch
S193911 Juv 10/07/2016 Peebles, Borders
Controlled Ad M 09/11/2019 Little Livermere, Suffolk 451 km

Siskin
S198426 Juv 15/07/2017 Peebles, Borders
Controlled Imm F 28/03/2018 Retie, Antwerpen, BELGIUM 730 km

AE24662 (C.I.) Imm M 16/11/2018 Alderney, CHANNEL ISLANDS
Controlled Imm M 09/05/2019 Peebles, Borders 663 km

Lesser Redpoll
ACA5115 Juv 12/07/2018 near Whim, Borders
Controlled Imm 28/03/2019 Orlestone, Kent 584 km. The four recoveries above represent fairly typical long-distance movements of wee finches.

Lothian
Fulmar
FH01659 N 30/07/2007 Inch Garvie, Firth of Forth
Freshly dead Ad 23/05/2020 Hardelot, Pas-de-Calais, FRANCE 628 km

Gannet
1499822 Juv 19/09/2017 Bass Rock, Lothian
By-catch on long-line, released alive Imm 12/05/2019 Lourinha, Lisboa, PORTUGAL 1,931 km

1706826 Juv 28/09/2019 Bass Rock, Lothian
Freshly dead Juv 14/10/2019 Vistestranden, Rogaland, NORWAY 588 km

Distant movements, with the two recoveries indicating some of the dangers faced by seabirds due to long-line fishing; and a fairly quick, but fatal, movement to Norway.

Sparrowhawk
DE51056 N 26/06/2014 Holyrood Park, Edinburgh
Colour ring read Ad 06/03/2019 Edinburgh 0 km. Although it hadn't moved far, this is a good example of the benefits of colour ringing the species.

Black-headed Gull
EW83479 N 12/06/2010 North Esk Reservoir, Lothian/Borders
Metal ring read Ad 03/01/2020 Town Reservoir, Greenock, Clyde 91 km

Lesser Black-backed Gull
GV75832 N 12/07/2019 Inchcolm, Firth of Forth
Found dead Imm 19/03/2020 Rio Douro, Porto, PORTUGAL 1,700 km

Kittiwake
ES28873 N 01/07/1995 Inchkeith, Firth of Forth
Controlled, breeding Ad 06/07/2019 Dunbar, Lothian 38 km

EL98298 N 13/07/2008 Inchkeith, Firth of Forth
Freshly dead Ad 16/08/2019 Wimereux, Pas-de-Calais, FRANCE 666 km

EX54338 N 02/07/2011 Dunbar, Lothian
Controlled, breeding Ad 06/07/2019 Inchkeith, Firth of Forth 38 km

These Kittiwakes show longevity (one in its 25th year) and colony interchange within the Forth area.

Chiffchaff
JPR229 N 03/06/2017 Saltoun Forest, Lothian
Controlled Imm 06/12/2017 Motril, Granada, SPAIN 2,129 km. Not too many Chiffchaff chicks are ringed in Scotland, so to get a movement of one is special, but such a distant one is extra special - on the wintering grounds presumably.

Goldfinch
ACH9140 Ad F 30/10/2019 Gifford, Lothian
Controlled Ad F 01/04/2020 Brixworth, Nottinghamshire 412 km. This movement is the longest Lothian one reported in 2019/20 and ties in with the Borders ones.

Additional colour ring reports in Lothian from the Port Seton area by Stephen Welch, William Barber *et al.* Stephen and the team recorded 633 different Sandwich Terns in 2019 alone, plus numerous other species! So, we can only show a selection here:

Sandwich Tern
C67/DT63322 chick 26/06/2018 Hodbarrow, Cumbria
RR 15/03/2019 Mile 4 Salt Works, NAMIBIA
Then RR 08/06/2020 Port Seton, Lothian

Common Gull
JNC6/5154716 chick 14/07/2018 Skagen, Finmark, NORWAY
RR 01/04/2020 Port Seton, Lothian 2,286 km 627 days

Curlew
AMP orange chick 30/06/2019 Naerbo, Stavanger, NORWAY
RR 10–18/07/2019 Port Seton, Lothian. A bird spending its first summer in Lothian (Plate 196).

Plate 196. AMP Curlew, Port Seton, Lothian. *© Billy Barber*

Mediterranean Gull
JA605/6229555 Ringed as a returning adult near Oslo, Norway on 15/04/2016, moved south to breed in Rogaland then to Feaquox, Orkney on 22/06/2016, moving on rapidly to Nethybridge, Highland, by 29/06/2016 and after breeding in Norway again he wintered in Lothian, first seen at Figgate Pond, Edinburgh 01/02/2017 then Port Seton from 02/02/2017 until 12/03/2017. The following two winters he spent at Redcarr, Cleveland only to return to Port Seton on 24/01/2020.

Argyll abstract by David Jardine

During the Covid-19 lockdown a paper was published on the roosting behaviour of two adult male Golden Eagles using data from GPS satellite tags. The birds had been caught, ringed and tagged in mid-Argyll by Dave Anderson, Ewan and Jenny Weston and the analysis of their roosting behaviour was carried out by Andrew Ford, John Taylor and David Jardine.

One eagle used a total of 120 different roost sites over two years and the other over 87 roosts in the one year it was studied. These numbers of roost sites were substantially greater than expected from previous field-based studies. Around 70 % of the roost sites were used on only one occasion and use of these roosts accounted for 17–25 % of roosting behaviour. Seven roosts which were used for more than ten nights (multi-use roosts) were located for one bird and five for the other. Roosts which were used on only one night tended to be used more than expected on evenings when winds were low (< 5 m/s), while multi-use roosts were used more than expected on evenings with strong winds (>10 m/s). This suggested the selection of more sheltered multi-use roosts during strong winds. Full details of the study are available in *Ringing & Migration* 34: 1–7.

Selected recoveries from the North Solway Ringing Group (Duncan Irving)

Dunlin
NT41820 Ad 04/05/2018 Newbie Mains, D&G
R 12/09/2018 Samouco, Setubal, PORTUGAL 1,856 km 131 days.

NR88882 Ad M 05/05/2003 Waterfoot, Annan
R 13/03/2018 Quinta do Marim, Faro, PORTUGAL 2,024 km 5,426 days

Ringed Plover
99X15807 Ad F 06/05/2016 Wenduine, West-Vlaanderen, BELGIUM
R 11/05/2019 Newbie, Annan 589 km 1100 days

Osprey
NK4/1462280 chick 12/07/2019 Threave, D&G
RR 31/08/2019 Kingfishers Bridge NR, Cambridgeshire 401 km 50 days.

Sedge Warbler
S434610 Juv, 18/06/2019 Mersehead, D&G
R 22/08/2019 Donges, Loire-Atlantique, FRANCE 848 km 35 days

S434656 Juv 08/08/2019 Mersehead, D&G
R 22/08/2019 St-Vigor-D'Ymondville, Seine Maritime, FRANCE 663 km 14 days

Blackcap
S431673 Juv 23/06/2018 Cardoness, D&G
R 22/10/2018 Cadiz, SPAIN 2,074 km 121 days

Swallow
Y549772 chick 21.06.2013 Clonyard Farm, D&G
R 13/05/2014 Canton Magistris, Verbania, ITALY, 1,319 km 326 days (note same site as CRG bird)

Sand Martin
S944549 chick 21/06/2019 Applegarth, Lockerbie, D&G
R 21/08/2019 Braud-et-St-Louis, Gironde, FRANCE, 1112 km 61 days

Pied Flycatcher
S075572 chick 06/06/2018 Castramont Wood, D&G
R 20/05/2020 Skagen Fuglestation, NordjyllandsAmt, DENMARK, 714 km 714 days

Goldfinch
8434408 Ad M 21/01/2018 Gennes, Maine-et-Loire, FRANCE
R 24/01/2020 Gatehouse of Fleet, D&G 882 km 733 days

Siskin
9AH2539 Ad M 14/07/2019 Hantsholm, Viborg, DENMARK
R 19/01/2020 Clonyard Loch, D&G 801 km 189 days

Kestrel
EW71638 chick 17/06/2013 Dalnigap, D&G.
Dead 15/07/2019 Sao Cristovao, Evora, PORTUGAL 1853 km 2,219 days

Black-headed Gull
E4JL/3729795 chick 04/06/2011 Velumemeer, Ijsselmeerpolders, NETHERLANDS
RR 30/12/2019 Stranraer Harbour, D&G 757 km 3,131 days

I hope you've enjoyed reading our update from these areas and that it has given you a glimpse into the journeys these birds make in the course of their lives.

Iain Livingstone, Clyde Ringing Group.
Email: iainlivcrg@googlemail.com

Plate 197. 'Coues's Arctic Redpoll', Hopes Reservoir, Lothian, 6 January 2019. © *Sam Northwood*

'Coues's Arctic Redpoll', Hopes Reservoir, January 2019 – second record for Lothian

J.D. WILSON

On the morning of 3 January 2019, my wife Ellen and I were taking a New Year walk around one of our favourite inland birding locations in Lothian, Hopes Reservoir. As we approached the woodland below the reservoir dam, we heard the distinctive sound of redpolls calling in the trees ahead. Being aware of a recent report of a 'Coues's Arctic Redpoll' just over the country boundary at Bell Wood in Borders, I resolved to spend some time with the flock, 'just in case'. Viewing conditions were initially frustrating; the 80–90 birds were extremely skittish, only ever settling briefly before circling around and landing again in the treetops. Most were clearly Lesser Redpolls with a handful of Mealies, but after 30 minutes or so of scanning the highly mobile flock, we had each had brief views from below (against the light) of an intriguingly pale and noticeably larger-looking individual that 'stood out from the crowd'. Before better views were obtained, the entire flock flew up to birches and Alders around the reservoir shore, but having climbed up to the reservoir, I eventually relocated the bird downslope of me, perched in a sapling with the dark water surface of the reservoir as a backdrop to provide much better viewing conditions. I watched the bird briefly in good light before the entire flock once again took flight to the opposite side of the reservoir. Later, Ellen and I relocated the bird and viewed it from below as it again foraged in Alders below the dam.

During these latter two periods of observation, we were able to establish that the bird was very pale 'silvery grey and white' in general appearance and seemed 10% or so larger than accompanying birds, but with a noticeably small, stubby bill, pure white breast, belly and undertail and no hint of brown colouration in the upperparts, with the broadly white-tipped greater coverts forming a striking and seemingly pure white wing bar. Most strikingly of all, the pure white rump allowed the bird to be tracked into the trees on the other side of the reservoir when the bird flew with the rest of the flock.

With the salient identification features seen, but no serviceable photograph captured, I somewhat nervously put out the news of a likely 'Coues's Arctic Redpoll' in the hope that other observers would follow up with some good images.

Fortunately, the bird stayed until 27 January and enjoyed a steady stream of visitors, with suggestions that additional birds could have been present at times. Ian Andrews and Stephen Welch kindly kept track of the various reports and images (e.g. Plates 197–198) that collectively allowed the record to be submitted to, and subsequently accepted by, BBRC. I would like to thank Sam Northwood for the superb images which accompany this article.

The size of the redpoll flock fluctuated over the next couple of weeks and at times it was large and highly active - feeding both on the birch trees and the seeds on the ground at various locations around the reservoir. For example, there were c.400 redpolls present on 14 January and it was estimated that c.10% were Mealies with at least one Arctic. The variation in plumage of these birds was huge and confusing, but the views remained frustrating, so it wasn't possible to prove more than one Arctic Repoll.

Somewhat surprisingly, there is only one previous Lothian record, from Aberlady Bay saltmarsh between 19 December 2005 and 18 March 2006.

Jeremy Wilson, Keith Marischal, East Lothian.
Email: jeremy.wilson@rspb.org.uk

Plates 198 a–c. 'Coues's Arctic Redpoll', Hopes Reservoir, Lothian, 5–6 January 2019. © *Sam Northwood*

Steller's Eider, Westray and Papa Westray, October 2019 to April 2020 – the fifth Orkney record

D. OTTER

Loch of Swartmill is a shallow loch very close to the sea at Bay of Swartmill, a couple of miles from my home on the island of Westray in Orkney. The site plays host to a variety of migrating birds at different times of the year. If water levels are low in the summer, it can be great for waders. Indeed, the best bird that my wife Sandra and I had found there was a Sharp-tailed Sandpiper in July 2012.

During autumn, the loch plays host to varying numbers of waterfowl moving down from northerly breeding areas such as Iceland. These include Whooper Swans and large numbers of Wigeon and Teal with smaller numbers of Mallard and Pintail amongst others. There can sometimes be one or two more marine species like Long-tailed Duck and Scaup.

On 26 October 2019, we had seen an American Wigeon here and on the afternoon of 29th, we stopped to scan the loch to see if this, or anything else of note, was about. Whilst I was scoping the Wigeon flock, Sandra, who was using binoculars, said she had seen an odd-looking duck. I got the 'scope onto the bird in question and, I must admit, was at first puzzled as to what it was. It was clearly a fairly compact diving duck and was, in fact diving repeatedly. The bird was fairly distant, but I noticed that it had two thin wing bars which could be seen as the bird swam side-on. Excitement rapidly mounted as I realised that this was a feature exhibited by Steller's Eider. Having never seen this species before (and it not being a nice adult drake!), I wasn't 100% sure of this so grabbed my copy of *Collins Bird Guide* from the car. Bingo! I just couldn't believe what I was seeing.

We watched the bird for almost an hour and Sandra managed to take some (distant) photos.

Plate 199. Steller's Eider, Westray, Orkney, 6 November 2019. © *Dan Pointon*

During this time, it was possible to see the following details. As stated, the bird was a compact duck, nothing like the shape of an Eider. The head was quite angular, steep at the back and at the forehead, with a flat crown. The grey bill was broad and squared-off at the tip. The overall colour of the bird varied as it turned in the sun, sometimes appearing dark brown and sometimes looking paler. Despite the bird being fairly distant, it was possible to make out vertical dark stripes on the flanks and near the base of the tail. Two white wing bars could be seen, but these were relatively faint and narrow leading me to believe this to be a young bird rather than an adult female. An impression seemingly backed up by the fact that I could not see the long tertials which an adult would be expected to show. The bird flapped its wings a few times, showing the underside to be very pale. It was diving pretty constantly but would occasionally stop to preen.

We revisited the site a little later and the bird was present until it was too dark to see it. We also managed to show it to a couple of friends from the island. The next day, a few birders from the mainland of Britain were present but the bird failed to show for most of the day. However, at about 15:45 hrs we stopped by the loch and almost immediately located the bird. Unfortunately, none of the visiting birders were

present. Within a few minutes of re-finding the bird, the Wigeon flock was inadvertently flushed by some children who were playing by the loch shore and the bird disappeared with them. The bird was seen off Shapinsay from the Sanday–Kirkwall ferry on early on 30 October, then back at Loch of Swartmill again. On 31 October, several visiting birders were again present but the bird failed to show. We were left with mixed feelings - excited to have found such a great bird but sad that none of the visitors had managed to connect with it. However, a few days later, on 6 November, Dan Pointon relocated the bird at the north end of the island near to the airport. It stayed to the early morning of 8 November, but then went missing, only to be found on the neighbouring island of Papa Westray that same afternoon by David Roche (amazingly, a Steller's Eider was present there in the 1970s and 1980s). The bird remained on Papa Westray until 24 April 2020, allowing many birders to connect with it.

Don Otter, Westray, Orkney.
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Steller's Eider status in Scotland

This species breeds across the coastal tundra strip of mainland Arctic Russia from the Khrebet-Pay-Khoy peninsula (NW Siberia) east to the Chukchi Sea/Bering Strait, and in northernmost and westernmost Alaska. It winters along the coasts of northern Norway and the Kola Peninsula (NW Siberia), and the Kamchatka Peninsula to northern Japan, and across the Kommander and Aleutian Islands to south-westernmost Alaska.

There have been 15 accepted records of Steller's Eider in Britain up to the end of 2018, with the first two of these in England (Caister, Norfolk 6 February 1830 [shot] and Filey Brigg, Yorkshire, 15 August 1845 [shot]). All records since have been in Scotland, starting in 1947, after a 102-year gap. Several of these individuals have been long-staying birds and a few have proven to be returning birds seen in successive years. There have been none in Ireland.

Plate 200. Steller's Eider (left) with Eider, Westray, Orkney, 18 November 2019. © *Don Otter*

Plate 201. Steller's Eider, Westray, Orkney, 9 November 2019. © *Graham Jepson*

This is the first occurrence in Scotland/Britain since the publication of the latest Birds of Scotland *(Forester* et al. *2007). The previous records from Westray and Papa Westray involved an immature male present on Westray from 25 October to 14 November 1974, with the presumed same as an adult male on the sea between Westray and Papa Westray on 14 July 1978; off Papa Westray on 2–19 June 1979; and 29 April to late August 1980; off Papa Westray and Westray from 7 May to 24 June 1981, and Papa Westray from 30 April to 1 July 1982. At much the same time, an adult male was seen off Vorran Island/Dremisdale, South Uist, Outer Hebrides from 22 November 1972 to 12 August 1984. In addition, two females were seen at Vorran Island, South Uist, Outer Hebrides on 13 April 1974.*

The other Orkney records were of short-staying birds: an adult and immature male at Wide Firth, Gairsay on 5th, 12th and 19 January 1947; a male at Sandside Bay, Deerness, Mainland on 13 November 1949 and a female on North Ronaldsay on 16–17 April 1976.

Reference

Forrester, R.W., Andrews, I.J., McInerny, C.J., Murray, R.D., McGowan, R.Y., Zonfrillo, B., Betts, M.W., Jardine, D.C. & Grundy, D.S. (eds) 2007. *The Birds of Scotland*, The Scottish Ornithologists' Club, Aberlady.

Plate 202. Tengmalm's Owl (bird B), Shetland, February 2020. © *Rebecca Nason*

Plate 203. Tengmalm's Owl (bird B), Shetland, 14 February 2020. © *Rebecca Nason*

Roosting and feeding behaviour of Shetland's Tengmalm's Owls in 2019 and 2020

P. HARRIS

Introduction

Two different Tengmalm's Owls were discovered in Shetland during 2019–20. The occurrence of the first is described in *Scottish Birds* 39(3): 247–251. This is a very rare vagrant to Britain from dense forests of central and northern Europe, with a recent flurry of records since 2018. But with none recorded before that since 1986, the second sighting was initially thought to be the original bird rather than a new individual. However, when the second individual was seen well (and trapped and ringed, and examined in the hand, which indicated it was a first-calendar-year bird) (Plate 203), it quickly became apparent that two different birds were involved, a quite remarkable event.

This bird (trapped and ringed in February 2020) is aged as being in first-adult plumage at the start of its second calendar year since the flight feathers are all the same age with no evidence of moult limits. The lack of moult limits indicates this bird was born in spring 2019, and therefore cannot be the bird discovered at Tumblin, Bixter on 19 February 2019. With this species the egg-laying period can start as early as late February and extend to early June, and incubation takes about 29 days. Birds fledge after 4–5 weeks with their second, downy (mesoptile) feathers full grown. These are lost over the next couple of months as the bird acquires its first-adult plumage. First-adult plumage is closely similar to adult plumage except that birds retain their original primaries, secondaries and tail feathers having only moulted body feathers and some wing coverts in their post-juvenile moult. Birds then undergo a complete and protracted moult from late spring to September/October of their second calendar year to acquire full-adult plumage. During this process moult limits become apparent in the flight feathers as old

feathers are shed and new ones grown. The presence of adjacent old and new feathers then becomes a feature of the flight feathers from then on in its adult life.

The first individual (Bird A) was discovered in a garden in Tumblin in the west of Shetland on 19 February 2019, it eventually relocated to Lea Gardens – c. 2.4 km to the east – until 13 April 2019 when it relocated to Valyie, Unst on 14 April - a journey of 70 km north-east, with the bird presumably starting to find its way to Scandinavia?

The second individual (Bird B) was discovered in Lyndsey Lea plantation on 14 December 2019 by a member of a coastguard team on a training exercise, but news did not come to light until 11 February 2020. Fortunately, the bird was still present and was re-found. It spent most of its time there apart from a visit to Lea Gardens (amazingly where the previous bird had also relocated) from 3–14 March and 9–13 April before relocating back to Lyndsey Lea – a journey of 6.2 km – where it was last seen on 14 April.

Plate 204. Tengmalm's Owl (bird A), Shetland, 9 April 2019. © *Rebecca Nason*

Roosting behaviour

Bird A was first discovered in a small garden in Tumblin roosting in a large, mature Spruce tree, it was probably there due to the very high winds at the time and very exposed location. During the rest of its stay at Tumblin it was in a much younger, more dense stand of Spruce trees approximately 50 m long by 20 m wide and was virtually impossible to see during the day, only giving good views when it appeared just before dusk. However, the bird seemed to be missing from Tumblin every 24 hours and was eventually pinned down during these absences to Lea Gardens.

Tengmalm's Owls will head off hunting for the night and will generally roost wherever they end up by first light, so it would seem that this bird was hunting within the 3 km between the two sites. This covers a lot of open ground but is plausible and makes more sense when I discuss its prey items. I spent a lot of time with the bird in Lea Gardens and was able to locate it most days. It rarely used the same roost site two days in a row but would return to the same roost site every 3–4 days.

Bird A used a variety of different tree/bush species during its stay including Norwegian Spruce, Hawthorn, European Larch, New Zealand Holly, Ivy, Sycamore and Leylandii Cypress. During its stay in Lea Gardens, Bird A was never difficult to find and at times could be completely visible throughout the day.

Bird B was first discovered in Lyndsey Lea and spent most of its time there apart from one trip to Lea Gardens. Lyndsey Lea is a very mature plantation, with very tall Caledonian Pines and Larch, but its southern flank is younger Larch and Lodgepole Pines. However, its choice of roost site was very different to that of Bird A in that it only ever used the young Lodgepole Pines or Larch at both sites.

The roost position for both birds was between 1–6 m off the ground and varied between being tight against a trunk usually on poor weather days, to sitting way out on more

peripheral branches. Locating the birds was usually a case of systematically searching all the suitable trees, but one of the most reliable methods was spotting faeces below or running down trees. They were very white and sticky and there would be a small collection below the tree; small pellets would also be located. Another good method of knowing the bird was nearby was finding cached prey items, the bird was never more than 30 m from cached prey.

Both birds were incredibly tame, allowing approach to within inches without showing any concern. Even when fully alert having left their roost, and feeding on cached prey, you could stand within feet and it would just carry on consuming the prey. During the day the birds would obviously spend most of their time sleeping but would regularly wake to preen, and if they had a prey item with them in the roost, they would usually wake in the afternoon to consume it. Approximately 30 minutes before dusk the birds would wake and begin to preen and wing stretch. Then, with about 10 minutes of good light left, they would head off. They usually just moved short distances between trees or would head to cached prey.

Feeding behaviour

Unfortunately, I was away from Shetland during Bird A's early weeks after discovery when it was present between Tumblin and Lea Gardens. Once I re-found the bird in March, I saw it most days, but not knowing what would happen the following winter, I didn't collect any pellets. However, I did see it with various prey items. After Bird B was found, I tried to collect as many pellets as possible and kept note of all the prey species that have been cached.

Table 1. Prey species taken by Tengmalm's Owls on Shetland, 2019–20.

Species	Bird A	Bird B
Ringed Plover	2	
Redshank	1	
Chaffinch	1	
Mouse spp.	2	16
Blackbird		5
Robin		5
Goldcrest		5
Wren		1

Both owls would begin hunting up to 30 minutes before dusk when a lot of the local passerine

Plate 205 a–d. Tengmalm's Owl cached prey items **a)** Robin, **b)** Blackbird, **c)** Field Mouse, **d)** Blackbird, Shetland, February–March 2020 © *Phil Harris*.

species were still calling and getting ready to roost; presumably, the majority of birds were caught in this period or at first light. That said, interestingly Bird A, whilst at Lea Gardens, was seen with two Ringed Plovers and a Redshank cached. Since there is a shoreline close by it is possible that it caught these during the night at the shore, or possibly in wet fields nearby where a lot of waders will go to feed at night.

We don't know the sex of Bird A, but if it were a female, and therefore notably heavier, it might explain it taking bigger prey items like waders (Table 1). Bird B has also spent time at Lea Gardens but has only caught smaller species up to the size of Blackbird. We know Bird B was a male, and so perhaps not capable of taking larger birds the size of Redshank. All the bird species identified were found cached apart from the Goldcrests, which were identified from pellet remains where the legs and feet were found within a pellet. The Chaffinch that was caught by Bird A was the only time either owl was seen to make a kill. It dashed out of its roost and caught the Chaffinch on the ground before returning to a nearby tree with it.

Cached birds were normally found almost fully intact, but all had the head missing and occasionally a wing. The caches varied in distance from the roosting birds, some prey would be in the owl's talons then from a few inches away to 30 m away, some caches were just a few feet up, with others 5 m up. Some caches were very exposed in a small fork in a tree.

When Bird B left the roost, it would almost immediately go and visit the cached bird if it were some distance from the roost. However, if it were a Blackbird it would take a few bites then head off hunting presumably knowing the cache was there for later. On two occasions, cached Blackbirds took two days to consume. When the owl had a bird cached with it or within a foot or two, it would often feed on it in the middle of the day.

The head was often missing bar one occasion when I found it with a Robin which I believe it had just caught at dawn, I watched it remove the head, which it duly swallowed, followed by removing both wings which again it swallowed whole. Both owls, regardless of size of prey, ate every part of it - with legs, bill and wings all consumed, the larger parts were crunched through and dissected into smaller pieces. The pellets collected contained some whole bills and legs and feet, but otherwise just small fragments of bones and feather. Both birds generally ejected one pellet per day, usually in the evening before leaving the roost.

Small mammal prey

In Shetland, we only have two species of mouse, the House Mouse and a sub-species of Field Mouse which is slightly larger than Field Mice further south. Whenever I found cached mice, they were always Field Mice, however I found the lower jawbones of mice in several pellets, which I could not identify. There are no voles or shrews in Shetland, however the mice species are very abundant. Again, mice were cached, sometimes with a bird, and up to 30 m away, on one occasion a whole mouse was found but usually the head and upper body was already consumed.

Roost and travel

Both Bird A and B moved between two sites during their stay. Both birds spent time at Lea Gardens on overlapping dates and my and others' theory was that this was due to the large number of Common Frogs that had appeared at the garden pond. However, I found no evidence of Frogs as prey during the birds stay at the gardens, so presumably this is just coincidence.

Of the Bird B roost sites in Lyndsey Lea plantation, the cluster in the south-eastern corner were used on multiple occasions, while the three remote sites were only used on one occasion. The site on the north side was only used once during severe gale force southerly winds. The southern edge of the plantation contains much younger trees than the northern edge.

Both birds moved from their original locations to Lea Gardens, and certainly with Bird B back again. Bird A probably commuted the 2.4 km back to Tumblin every 24 hours during its initial few days of its stay (after discovery).

We await future developments with interest.

Phil Harris, Lerwick, Shetland.
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Plate 206. Song Sparrow, Fair Isle, 9 April 2020. © *David Parnaby*

Song Sparrow, Fair Isle, 9–11 April 2020 – fifth record for Fair Isle and Scotland

D. PARNABY

Early April on Fair Isle had seen some horrible wintry weather, but some southerly winds and calmer spells towards the second week of the month saw some positive signs of migration. Although usually lacking the full-blown excitement of a Sibe-filled September, or the colourful scarcities and extreme rarities of later in the spring, there's something really special about that first flush of migrants. As well as the hoped for 'classic' spring migrants like Wheatear, Chiffchaff and Blackcap (Fair Isle winters being far too bleak for any of the latter two to overwinter), it is usually the first chance of the year to catch up with species like Dunnock, Rook, Collared Dove, Goldfinch, Chaffinch, Brambling etc as they pass through on their way to more northerly breeding grounds. A few of the seabirds will be debuting for the year as well, with Puffin, Bonxie and Razorbill returning after winters out at sea, so it's one of my favourite times for birding on Fair Isle, even if rarities are not usually on the cards.

However, one of the biggest enjoyments of birding is that you just never know, and on Fair Isle that is especially the case! So it was that, on an evening walk north to check around the traps and Obs area (as my 'daily lockdown exercise'), I found myself wandering along the Vaadal stream quite content with having found the first Pintails of the year earlier in the day on Da Water, and enjoying the light scatter of Robins and other common migrants that were dotted around. A bird flushed low ahead of me from one of the dead pine trees that act as cover for migrants and dropped into the base of the almost dried out stream bed. It immediately, 'wasn't right' and my brain went through that split second 'not Robin, not podgy enough for Dunnock, tail too long for Blackcap - this must be something good' moment that is always lots of fun! Somewhat puzzled as to what it could be though, I was delighted to raise my bins as the bird lifted its head and be met by a dazzling array of stripes and colours that could only belong to a Song Sparrow.

They're a very distinctive bird, with no real confusion species, once you get a decent look at that face pattern and the streaking on the breast (which coalesces into a splodge in the middle of the chest, unlike any of the other North American sparrows). My only previous meeting with the species had been the one Richard Cope trapped in the Plantation two springs previously, which attracted quite a twitch as it was the first British record for 24 years. It's a strange situation to find yourself confronted with such a rare bird and one of your first thoughts being to check the legs to make sure it's not ringed and therefore a returning visitor - the absence of a ring was easily noted though, meaning I could add the species to my 'finds list'!

It seemed happy in the area, either feeding by shuffling along in the base of the dried stream or moving up to the Vaadal reservoir where it would disappear into the long grass. Having seemingly gone to roost at the base of some small bushes here, it was seen briefly in the Gully again in each of the following two days and only eight people saw the bird during its stay.

Song Sparrow has become a real 'Fair Isle special', with over half of the UK records now being found on the Isle, all in spring. It has a tendency for earlier arrivals than other North American sparrows in the UK, with four of the Fair Isle records arriving between 11–27 April and one on 15 May. Other than the only autumn record for the UK, at Seaforth Docks (Lancashire), all the others have been in spring and at Bird Observatories (Spurn, Bardsey and Calf of Man), with a record from Sumburgh, Shetland in June 1979 assumed to be the bird that was seen earlier in the spring on Fair Isle. Having seen how elusive this and the previous individual on Fair Isle could be, with this bird disappearing into long grass and only flushing from very close range, it would be very easy to walk past one without ever knowing it was there. Much in the style of Lanceolated Warbler, this perhaps explains their tendency for such a large percentage of British records being at relatively cover-free and well-birded sites.

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Song Sparrow status in Scotland

The previous Song Sparrow on Fair Isle on 15–18 May 2018 was described in Scottish Birds *38(4): 366–367. It is remarkable how dominant Fair Isle is for records of this species in Scotland and Britain. Nearctic sparrows tend to be discovered more often in spring - as northbound breeding area overshoots from North America displaced to Europe, rather than as autumn vagrants. A White-crowned Sparrow was discovered on Foula, Shetland on 15 May 2020.*

SCOTTISH BIRD SIGHTINGS

1 April to 30 June 2020

S.L. RIVERS

Records in Scottish Bird Sightings are published for interest only. All records are subject to acceptance by the relevant records committee.

The following abbreviations for recording areas are used: Angus & Dundee - A&D; Argyll - Arg; Ayrshire - Ayrs; Borders - Bord; Caithness - Caith; Dumfries & Galloway D&G; Highland - High; Lothian - Loth; Moray & Nairn - M&N; North-East Scotland - NES; Outer Hebrides - OH; Perth & Kinross - P&K; Shetland - Shet; Upper Forth - UF.

The restrictions on non-essential travel due to the Covid-19 lockdown guidelines meant many birders spent more of their time close to home. Even so, good numbers of Great White Egrets and Common Cranes were noted, Blyth's Reed Warblers and Rose-coloured Starling had unprecedented spring influxes, and several Nearctic passerines were found.

Snow Goose: two adult white-morphs were on North Ronaldsay (Ork) on 9 June. **Bean Goose sp.** three flew over Holland House, North Ronaldsay (Ork) on 17 April. **Egyptian Goose:** one flew north past Saltcoats Harbour (Ayrs) on 5 April. **Ruddy Shelduck:** one was at Tyninghame, Dunbar (Loth) on 3 April; two were at Irvine (Ayrs) on 7 April; and singles at Ferry Point, Dingwall (High) on 21 April; at the Add Estuary/Loch Crinan (Arg) on 14-15 May; at Montrose Basin SWT Reserve on 4-24 June; at Browhouses (D&G) on 5 June, and at Martnaham Loch (Ayrs) on 30 June. **Black Duck:** the regular drake at Strontian (High) was present to 20 June at least. **Green-winged Teal:** single drakes were still on North Ronaldsay (Ork) to 15 April; at Loch of Kinnordy RSPB Reserve (A&D) on 10-21 April; at Loch of Harray, Mainland (Ork) on 10 April; at Loch of Bosquoy, Mainland (Ork) on 15-16 April; at Backaskaill Loch, Papa Westray on 16 April, and at Scatness, Mainland (Shet) on 10-11 May. **Ring-necked Duck:** two (one drake) were still at Loch Bhasapol, Tiree (Arg) to 15 April, and single adult drakes at Kilmardinnyk Loch, Bearsden (Clyde) on 9 April; at The Cuilic, Pitlochry (P&K) on 12-15 April, and near Collieston (NES) on 24 April. **Lesser Scaup:** a drake was at Loch Sandary, North Uist (OH) from 27 May to 17 June. **Steller's Eider:** a juvenile drake was still on Papa Westray (Ork) to 24 April.**King Eider:** the returning drake was again at the Ythan Estuary (NES) from 29 April to 24 May; a female was at Ardvule, South Uist (OH) on 30 April; a female at Coul Links, near Golspie (High) from 30 April to 13 May, and a drake at Burghead Bay, Findhorn (M&N) from 23 June. Into July. **Surf Scoter:** an adult drake was still off Musselburgh/Fisherrow/Joppa (Loth) to 30 April; a female was off Kinkell Braes, St. Andrews (Fife) from 28 April to 2 May; a female off Musselburgh Lagoons (Loth) on 23 June and a drake was at Seton Burn, Port Seton (Loth) on 28 June. **American White-winged Scoter:** the returning drake off Fisherrow/Musselburgh (Loth) was last seen on 20 May.

White-billed Diver: about 11 in April from Morayshire to Shetland, mostly singles but four were off Cullen (M&N) on 22nd, and two off Norwick, Unst (Shet) on 23rd. Up to eight in May from Lothian to Shetland, with a peak of two off Gullane Point (Loth) in early May. In June an adult flew past Dunbar (Loth) on 7th, and one was at Burrafirth, Unst on 10-13th.

White-chinned Petrel: one in Scapa Bay, Mainland (Ork) on 25 May was the first for Britain and the Western Palearctic. **Pied-billed Grebe:** the returning adult male was again at Loch Feorlin, near Lochgilphead (Arg) throughout rhe period.

Glossy Ibis: two were at Loch Bailfinlay, Benbecula (OH) on 4 April, with one still to 6th. **Spoonbill:** one flew over the A96 towards Lochgelly, near Kirkcaldy (Fife) on 13 April; singles were at the Loch of Strathbeg RSPB Reserve (NES) on 26 April; on North Ronaldsay (Ork) on 22 May; at Tyninghame Bay, Dunbar (Loth) on 2 June; at Loch Bee, South Uist (OH) on 10-26 June, and one at the Ythan Estuary (NES) on 25-29 June. **Great White Egret:** singles were at Lugar (Ayrs) and at Lochindores, near Coupar Angus (A&D) in April; at least one was on Shetland in May, one on the Ythan Estuary (NES) on 7 May, and again from 18 June into July; one near Edinburgh Airport (Loth) on 7 May; one at Cotehill Loch (NES) on 12 June; two at Loch Inchard, near Kinlochbervie (High) on 13th; one at Ardnamonie/Loch Bee, South Uist (OH) on 24-29th, and one at Aberlady Bay (Loth) on 24-27 June.

Honey-buzzard: one flew over Glen Tromie, near Kingussie (High) on 14 May; one was over Dunkeld (P&K) on 20 May; one

over Foula (Shet) on 21 May; one over Inverness (High) 24 May; one over St. Abb's Head (Bord) on 29 May, and one over Papa Westray (Ork) on 10 June. **Pallid Harrier:** a female was near North Sandwick and Sand Water, Yell (Shet) on 28 April. **Montagu's Harrier:** a ringtail was at Newmains Farm, Reston (Bord) on 14 May, and a male was at Thornhill Carse, Stirling (UF) on 28 May. **Spotted Crake:** one was heard singing at Insh Marshes RSPB Reserve (High) in mid-May. **Common Crane:** many reports, with the same birds probably noted at several locations. In April two flew over St. Abb's Head (Bord) on 5th; one was at Garrabost, Lewis (OH) on 12th; at least four toured Shetland from 15-22nd; singles were on Fair Isle on 21st; at Reston (Bord) on 25th; over Houton, Mainland (Ork) on 28th, and two at Strathrusdale, near Alness (High) on 30 April. In May at least four were still present on Shetland, with one to at least 24 June; singles were on Orkney at Burray on 5 May, and North Ronaldsay on 11th; near Aberdeen (NES) and at Stewarton (Arg) on 3 May; over Dunnet Bay (Caith) on 5th; over Mains of Garten (High) on 11th, and over Inverness (High) on 30 May. In June, singles were on Fair Isle on 18-29th, and at Loch of Strathbeg RSPB Reserve (NES) on 21st.

Stone Curlew: one was at Ardalanish Bay, Mull (Arg) on 19 April, and one on Fair Isle on 26 May. **Avocet:** two were at the Waulkmill Hide, Ythan Estuary (NES) on 3 May; one at Kennetpans, near Alloa (UF) on 8 May; two at Port Logan (D&G) on 22 May, and two at Musselburgh Lagoons (Loth) on 2-3 June. **American Golden Plover:** an adult was on North Ronaldsay (Ork) on 25-26 June. **Greater Sand Plover:** one was at Tyninghame Bay, Dunbar (Loth) from 27 June into July. **Hudsonian Whimbrel:** one was at Dunnet Bay (Caith) on 18 April and 2 May. **Broad-billed Sandpiper:** one was at Musselburgh (Loth) on 10-11 June. **Curlew Sandpiper:** only a few sightings – two were on Papa Westray (Ork) on 8 May; one at Morar (High) on 9 May; one on the Ythan Estuary (NES) on 19-20 May, and one on North Ronaldsay (Ork) on 26 May. **Temminck's Stint:** one was at Loch Tay, near Killin (UF) on 24 May, **Pectoral Sandpiper:** one was at St. John's Loch (Caith) on 29 April, and one at The Lurgies, Montrose Basin (A&D) on 7 June. **Terek Sandpiper:** one was at River Esk/Musselburgh Lagoons (Loth) on 25 May – the first record for Lothian.

Sabine's Gull: a first-summer was off Kinnaird Head, Fraserburgh (NES) on 24 May. **Bonaparte's Gull:** first-summer birds were at Baleshare, North Uist (OH) on 18 May; at Ardvule Point, South Uist (OH) on 20 June: at Crinan on the Add Estuary (Arg) from 22 June into July, and at Stinky Bay, Benbecula (OH) on 26-27 June. **Mediterranean Gull:** remains much under-reported away from the Firth of Forth, but a first-summer bird toured Loch of Hillwell, Loch of Spiggie and Ringasta on the South Mainland (Shet) from 6-12 June. **Ring-billed Gull:** a first-winter was at Nunton, Benbecula (OH) on 21 April; a first-summer was at Loch of Hillwell, Mainland (Shet) on 14-18 June, and nearby at Brae and Ringasta, Mainland to 21 June. **Glaucous Gull:** at least 19 recorded in April, from Shetland to Inverbervie (NES) and Tiree (Arg), and unusually singles at Perth (P&K) on 23rd, and near Grantown-on-Spey (High) on 26th. In May at least nine were seen, from Shetland to Rosemarkie (High) and Tiree (Arg), all singles except for two at Rubha Arnal, North Uist (OH) on 8-13th. At least six in June, one at Cullivoe (Shet) from 18th into July, one on Orkney, three on the Outer Hebrides and near Campbeltown (Arg) on 28 June. **Iceland Gull:** about 40 reported in April, mostly in the north & west, but as far south as Lothian and Ayrshire, with peaks of three juveniles at Cullivoe, Unst (Shet) on 11th, and four ar Sumburgh, Mainland (Shet) on 17th. In May there were at least 27 birds, from Shetland to Highland, with peaks of two at Loch of Stenness, Mainland (Ork) on 1st; at Rubha Arnal, North Uist (OH) on 13th, and at Portree, Isle of Skye (High) on 18th. Just five in June, all singles with three on the Outer Hebrides, one at Ullapool (High) on 1st, and one near Scrabster (Caith) on 19th. **Yellow-legged Gull:** a probable adult was still at Hillwell/Ringasta and Scousburgh, Mainland (Shet) on 29-30 June. **Black Tern:** one was at Lossiemouth (M&N) on 15 June.

Pomarine Skua: a notably low total - two were off Saltcoats Harbour (Ayrs) on 23 April; one

Plate 207. Greater Sand Plover, Tyninghame, Lothian, 2 July 2020. © *Alan Brown*

flew over Curluke (Clyde) on 30 April; two flew north past Portmahomack (High) on 3 May; 12 passed Aird an Runair, North Uist (OH) on 23 May; one flew past Flubersgerdie, Unst (Shet) on 24 May; one was off Auchengill, Nybster (Caith) on 12 June, and one over Fleck, Mainland (Shet) on 23 June. **Long-tailed Skua:** notably low numbers - one was on Fair Isle on 7 May; two flew past Mull Head, Papa Westray on 15 May; 14 flew north past Aird an Runair, North Uist (OH) on 23 May; two flew over Bornish, South Uist (OH) on 24 May; two flew past Flubersgerdie, Unst (Shet) on 24th; one over Scotvein, Isle of Grimsay (OH) on 26th; one was at Dalsetter Hill, Boddam, Mainland (Shet) on 29th; two flew over Ardivachar Point, South Uist on 29 May and one on 7th June; an adult was at Bay of Skaill, Mainland (Ork) on 14 June, and one flew west over Ferry Hills, North Queensferry (Fife) on 30 June.

European Turtle Dove: singles were at Norwick, Unst (Shet) on 21-22 May; on Fair Isle on 26 May; at Gulberwick, Mainland (Shet) on 27th; at Balephuil, Tiree (Arg) on 30 May; at Bornish, South Uist (OH) on 30-31 May; at Lochdon, Mull (Arg) on 1 June; at Clachan, North Uist (OH) on 1 June; at Findrassie, near Elgin (M&N) on 12 June, at Olrig, near Castletown (Caith) on 20 June; at Durness (High) on 21st; at Auchengill, near John o'Groats (Caith) on 25th, and on Fair Isle again on 26th June. **European Nightjar:** singles were at Salen, Mull (Arg) on 8 May; at Sandness, Mainland (Shet) on 25 May; at Baltasound, Unst (Shet) on 2 June, and at Uyeasound, Unst on 11 June. **Alpine Swift:** one was at Pitcox (Loth) on 28 June. **European Bee-eater:** one was at Maryculter (NES) on 13 May; two at Straloch, near Kindrogan (P&K) on 14 May; one flew over Kirkton of Peterculter (NES) on 19 May; two were at Wester Quarff, Mainland (Shet) on 26 May; two were at Grimness/Honeysgeo Road, South Ronaldsay (Ork) on 31 May to 6 June; two were by Tingwall Road, Rendall, Mainland (Ork) on 3 June, and one landed on a boat 55 miles NW of Muckle Flugga (off Unst, Shet) on 15 June. **Hoopoe:** Singles were at High Kildonan, Isle of Arran (Clyde Islands) on 8 April; at Cullivoe, Yell (Shet) on 16 April; at Lerwick, Mainland (Shet) on 19 April; over the A830 near Fort William (High) on 21 April; one was at Symbister, Whalsay (Shet) on 11-15 May; one was at Lochdon, Mull (Arg) on 14 May; one was at Ballygrant, Islay (Arg) on 22 May, and one at Callernish, North Uist (OH) on 31 May. **Wryneck:** singles were at Maywick, Mainland (Shet) on 21 April; on Fair Isle on 25th and 30 April; at Loch of Brow, Mainland (Shet) on 30 April; at Norwick, Unst (Shet) on 30 April; at Halligarth, Unst (Shet) on 2 May; at Virkie, Mainland (Shet) on 3 May; one was found dead at Skaw, Unst on 6 May, and one was at Skaw, Whalsay (Shet) on 17 May. **Red-footed Falcon:** a female was on Papa Westray (Ork) on 30 May. **Hobby:** at least seven in May, with singles from Lothian and Upper Forth, two in Aberdeenshire, one on Fair Isle and two on Shetland. In June there were about eight on Shetland, one on Fair Isle and one on Orkney. Elsewhere singles were on Barra (OH) on 11th; at Cruden Bay (NES) on 16th; over Prestonpans (Loth) on 23rd, and over Fernyness Wood, Gosford Bay (Loth) on 28 June.

Red-backed Shrike: singles noted from 11 May, with at least 10 on Shetland, three on Fair Isle and three on Orkney to the end of May. Elsewhere a male was at Breibhig, Barra (OH) on 28th, and a female at Kilminning, Fife Ness (Fife) on 31 May. In June, at least eight were on Shetland, up to eight on Fair Isle and three on North Ronaldsay (Ork), with a male at Balnabodach, Barra on 4th June. **Lesser Grey Shrike:** one was at Northdale, Unst (Shet) on 31 May; one was on Westray (Ork) on 31 May; one was at Vidlin, Mainland (Shet) on 5 June; one was at Auldhame/Halflands Barns, near North Berwick (Loth) on 17-120 June, and one at Maywick Road/Ellister, near Bigton, Mainland (Shet) on 27-30 June. **Great Grey Shrike:** one was at Lix Toll, near Killin (UF) on 24 April. **Woodchat Shrike:** one was at Grutness, Mainland (Shet) on 7 May; a first-summer was at Askernish, South Uist (OH) on 28-30 May; one on Papa Westray (Ork) on 30 May; one on Out Skerries (Shet) on 1 June, and an adult male near the Loch of Harray/The Shunnan, Mainland (Ork) on 7-11 June.

Golden Oriole: a female/first-summer male was on Fair Isle on 22-23 May; one at Swinster Burn, near Hoswick, Mainland (Shet) on 23 May; one at Bridge of Walls, Mainland (Shet) on 24th; one at Inganess Bay, Mainland (Ork) on 25 May; one at Hillwell, Mainland (Shet) on 31 May; one at Hoswick on 1 June, and one at Halligarth, Unst (Shet) on 1st and 18-19 June. **Magpie:** one at Daliburgh, South Uist (OH) on 28 April and then at Castlebay, Barra (OH) from 30 April to 6 May and Breibhig, Barra from 8-21 May was only the second record for the Outer Hebrides. **Bohemian Waxwing:** over 330 still present from March with birds noted from Shetland to Lothian, Upper Forth and Argyll, with higher counts of 65 at Balerno, Edinburgh (Loth) on 3 April, 60 in Aberdeen (NES) on 5 April, and 31 in Dunblane (UF) on 11th. Just two reports in May, with 12 in Inverness (High) on 1st, and one at Carinish, North Uist (OH) on 4 May, and funally one was in Lerwick, Mainland (Shet) on 16-17 June. **Woodlark:** one was on Fair Isle on 25 April. **Shore Lark:** one was at Elgol, Isle of Skye (High) on 1-8 April; one on North Ronaldsay (Ork) on 8 May, and one flew over St. Abb's Head (Bord) on 28 May. **Short-toed Lark:** one was on Fair Isle

on 25 May, and one was on North Ronaldsay (Ork) on 5 June. **Calandra Lark:** one was on Fair Isle on 22 June. **Red-rumped Swallow:** one was on Fair Isle from 28 May to 1 June, and one was on Foula (Shet) on 28 June.

Green Warbler: one was on North Ronaldsay (Ork) on 1-7 June, and one was on Fair Isle on 16 June. **Greenish Warbler:** singles were at Halligarth, Unst (Shet) on 12-15 June; on Fair Isle on 15 June; on the Isle of May on 25 June, and at Sumburgh Hotel garden, Mainland (Shet) on 26 June. **Great Reed Warbler:** one was at Asta, near Scalloway, Mainland (Shet) on c15-22 June. **Paddyfield Warbler:** one was at Pool of Virkie, Mainland (Shet) on 18 June. **Blyth's Reed Warbler:** singles were at Hundland, Papa Westray (Ork) on 29 May; at Viewforth, Burray (Ork) on 29 May; on Fair Isle on 29-30 May, with two there on 31 May, and one still to11 June; singles at Setter, Sandwick, Mainland (Shet) on 1-2 June; at Bornish, South Uist (OH) from 31 May to 5 June; at Callernish House, North Uist (OH) on 2 June; at Durigarth, near Boddam, Mainland (Shet) on 4 June; at Scatness, Mainland (Shet) on 5 June; on Papa Westray (Ork) on 6 June; on Barra (OH) on 8 June; at Castlebay, Barra on 11 June; at Quendale, Mainland (Shet) on 13 June; at least one on Fair Isle on 14th; on the River Don/Ellon Bridge, Aberdeen (NES) on 14-16th; at Sibster, near Wick (Caith) on 14-15 June, and at Ham, Foula (Shet) on 16-17 June. **Marsh Warbler:** two were on Fair Isle on 31 May, one at Ferny Ness, Gosford Bay (Loth) on 31 May, and one on North Ronaldsay (Ork) on 31 May to 1 June. In June there were over 40 birds noted, almost all on the Northern Isles except for singles at South Glendale, South Uist (OH) on 13th; the Isle of May on 14-16th; Girdle Ness, Aberdeen (NES) on 15th, and at Cruden Bay (NES) and at St Abb's Head (Bord) on 16 June. All on the Northern Isles were singles except for two on Foula on 17-18th June, and two on Fair Isle on 6-7th, 15th 17th and 23 June. **Booted Warbler:** a singing bird was at Bakkasetter, Mainland (Shet) on 1 June, and one on Fair Isle on 30 June. **Icterine Warbler:** one was at Meningie, Tiree (Arg) on 21 May; one on Fair Isle on 28 May to 2 June, with two on 1 June; and singles at Quendale, Mainland (Shet) on 31 May; at Noss/Spiggie, Mainland (Shet) on 1 June; on Out Skerries (Shet) on 3-5 June; at Geosetter, Mainland (Shet) on 6 June; on Fair Isle on 6-9th, with three on 8th; on the Isle of May on 15-16th, and at Ham, Foula (Shet) on 25 June. **River Warbler:** one was on Fair Isle on 9-10 June. **Savi's Warbler:** one was at Scatness, Mainland (Shet) on 8-22 June. **Barred Warbler:** one was at Ham, Foula (Shet) on 15 June, and one on Fair Isle on 24 June. **Eastern Subalpine Warbler:** a male was at Sandwick, Mainland (Shet) on 18 April, and a male at Boddam, Mainland (Shet) on 9 May. **Western Subalpine Warbler:** a female was on Fair Isle (t&tr) on 31 May to 1 June. **Moltoni's Subalpine Warbler:** a female was in Lerwick, Mainland (Shet) on 17 June. **Subalpine warbler sp.:** a female not assigned to species was at Ham, Foula (Shet) on 16-17 June. **Firecrest:** one was at Oban (Arg) on 4 April, and one was at Lochinver High) on 20 May.

Rose-coloured Starling: one was at Carnan, South Uist (OH) on 30 May. In June a large influx brought almost 70 to Scotland

Plate 208. Rose-coloured Starling, Port Seton, Lothian, 30 June 2020. © *Alan Brown*

(some duplication between sites may have been involved), mostly to the north and west, but with birds from Out Skerries (Shet) to Cockenzie and Norht Berwick (Loth) and Barr (Ayrs). Virtually all singles except for two at Port Nis, Lewis (OH) on 5th, at Lionel, Lewis on 6th, and on Fair Isle on 6 June. Most were present at a site for four or fewer days, but one was at Kyleakin, Skye (High) from 3-18th, and one in Nairn (M&N) on 7th and 22-23rd June. **Bluethroat:** singles were at Honeysgeo, South Ronaldsay (Ork) on 20 April; on Foula (Shet) on 21 May; at Dalsetter/Boddam, Mainland (Shet) on 21-22 May; on Papa Westray (Ork) on 23rd; at least one on Fair Isle on 23rd, and one to 25th; at Skaw, Whalsay on 24th; on North Ronaldsay (Ork) on 24-25th; at Brough, Whalsay on 27 May; at Grutness, Mainland (Shet) on 2 June, and on Fair Isle on 23 June. **Thrush Nightingale:** one was at Schoolton, Fair Isle on 14 June. **Common Nightingale:** singles were on North Ronaldsay (Ork) on 6-8 May; on Papa Westray (Ork) on 17 May; on Fair Isle on 2-3 June, and on Foula (Shet) on 2-4 June. **Red-breasted Flycatcher**: a first-summer male was at Creachan, Barra (OH) on 2 June; one was on Fair Isle on 11 June; one at Balephuil, Tiree (Arg) on 12th; at St. Abb's Head (Bord) on 13th; at Paiblesgarry, North Uist (OH) on 18th, and on the Isle of May on 18 June.

Yellow Wagtail *[flavissima]*: singles were at Haddington (Loth) on 15 April; at Cawder Golf Course, Torrance (Clyde) on 18 April; at Old Craighall, near Musselburgh (Loth) on 29 April, and at Scoughall (Loth) on 9 May. **Blue-headed Wagtail** [*flava*]: one was near Hatton sewage works, Arbroath (A&D) from 21 April to 14 May; at the head of Loch Tay (UF) on 27 April; at Sumburgh/Grutness, Mainland (Shet) on 2 May; at Virkie, Mainland (Shet) on 3 May; at Portlethen (NES) on 5 May; at Donmouth, Aberdeen (NES) on 16 May; at Quendale, Mainland (Shet) on 1 June, and on Fair Isle on 11 June. **Grey-headed Wagtail** *[thunbergi]*: singles were at Portmahomack (High) on 3-4 May; on Papa Westray (Ork) on 7 May; on North Ronaldsay (Ork) on 7 June, and on the Isle of May on 14 June. **"Channel" Wagtail:** a bird showing characteristics of this hybrid form was at Belhaven Bay (Loth) on 27 April, and one at Arbroath (A&D) on 28-29 May. **Citrine Wagtail:** a first-summer male was on Papa Westray (Ork) from 7 May to 10 June; a male on Foula (Shet) on 1-2 June, and a male on Fair Isle on 4-16 June;

Hawfinch: about 23 noted in April, from Shetland to Lothian and Argyll, all singles except for two at Humbie (Loth) on 11th and two at Norwick, Unst (Shet) on 21st. About 15 in May, all singles except for two at Bigton, Mainland (Shet) on 20th, and on the Northern Isles except for one at Salen, Mull (Arg) on 9th and 21st, one at Golspie (High) on 11th and 29th, and one at Portree, Isle of Skye (High) on 25 May. Just four singles away from core breeding areas in June: at Askernish, South Uist (OH) on 2nd; near Twatt Airfield, Mainland (Ork) on 7th; at Colintraive, Kyles of Bute (Arg) on 15th, and at Tobermory, Mull (Arg) om 18 June. **Common Rosefinch:** one was at The Oa, Islay (Arg) on 19 May; one on Foula (Shet) on 22 May; one on Fair Isle on 22 May, with two on 23-24th and one on 25th and 29th, two on 30th and one on 31 May; singles were at Sumburgh Hotel garden, Mainland (Shet) on 30-31 May; at Culsetter, near Loch of Spiggie, Mainland (Shet) on 31 May; at Quendale, Mainland (Shet) on 1st and 6 June; on Fair Isle on 1st and 6 June, with two on 7th, and one still on 8-9th; singles at Auchenblae (NES) on 6-19th; at Dunnet Bay (Caith) on 8th; on North Ronaldsay (Ork) on 10-11th, with two on 12th, and one on 15th; on the Isle of May on 15-16th; on Foula on 17th; at Salen, Mull (Arg) on 23rd, and at Bigton, Mainland (shet) on 27-29 June. **European Serin:** a male was at Scatness, Mainland (Shet) on 25-29 May, and a male at Collieston (NES) on 15-17 June. **Black-and-white Warbler:** one was at Aithsetter, Cunningsburgh, Mainland (Shet) on 28 May – second record for Scotland. **Little Bunting:** one was at Toab, Mainland (Shet) on 24 April. **Rustic Bunting:** a male was on Fair Isle on 8 May; a male at Cruden Bay (NES) on 8 June, and one at Ham, Foula (Shet) on 17-18 June. **Black-headed Bunting:** a male was near Gairloch (High) on 8 June. **Song Sparrow:** one was on Fair Isle on 9-11 April. **White-crowned Sparrow:** one was on Fetlar (Shet) on 15 May. **Lapland Bunting:** singles were at Acharacle, Sunart (High) on 2 April; at Castlehill, Dunnet Bay (Caith) on 4 April; on Fair Isle on 4-6 April; on North Ronaldsay on 6th; at Rubha Arnal, North Uist (OH) on 18th; near Herston, South Ronaldsay (Ork) on 19th; over Loch Ardvule, South Uist (OH) on 20th; at Grutness, Mainland (Shet) on 23 April, with two there on 24 April; two at Butt of Lewis, Lewis (OH) on 29 April; one was at Baltasound, Unst (Shet) on 1 May; one at Exnaboe, Mainland (Shet) on 11 May; one at Scatness, Mainland (Shet) on 13-17 May and one on Papa Westray (Ork) on 17 May. **Snow Bunting:** numbers markedly down from those in March. About 50 in April, mostly in the Northern Isles, with a peak count of eight on Fair Isle on 7th. Elsewhere two were at Anstruther (Fife) and one at Embo (High) on 2nd, one near Sligachan, Skye (High) on 8th, and one flew over Breibhig, Barra (OH) on 30 April. Fewer than 20 birds noted up to 23 May, with high counts of seven on Fair Isle on 1st and five on North Ronaldsay (Ork) on 15th, and all on the Northern Isles except for two at the Butt of Lewis, Lewis (OH) on 21 May.

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PhotoSPOT

Plate 209. During my walk on 14th June 2020, I noticed that Sand Martins were visiting two drainage holes in the stone wall adjoining Devorgilla's Bridge which crosses the River Nith in Dumfries. These holes have been used by nesting Sand Martins in previous years.

The next morning I returned with my camera and tripod, and set up on the bridge focussed on this hole. Several martins were flying about so I don't know whether the bird at the hole was watching its mate or a stranger. Multiple exposures were possible and sometimes a flying bird stayed well away, but eventually one obliged although it did not settle - I had set a fast shutter speed, necessary to freeze the wing movement. The Ivy-leafed Toadflax I thought added to the scene.

The image has been processed using Photoshop with Topaz noise reduction. It's amazing what modern technology has brought.

Equipment used: Olympus EM1 mkII, 300 mm f4 lens with 1.4x converter, Aperture Priority, ISO 6,400, 1/4000 sec, f5.6.

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